DOCUMENT RESUME

ED 270 920	EC 182 917

AUTHOR	Tari, Andor J.; And Others
TITLE	Annotated Bibliography of Autism 1943-1983.
INSTITUTION	Ontario Society for Autistic Children, Guelph.
REPORT NO	ISBN-0-88955-035-2
PUB DATE	85
NOTE	465p.; The work was supported by a grant from the Hilroy Foundation Fellowship Program.
AVAILABLE FROM	Ontario Society for Autistic Children, 16 Caribou Crescent, Guelph, Ontario N1E 1C9 ($25.00 [Can.] in Canada; $25.00 in U.S. currency outside Canada, prepaid).
PUB TYPE	Reference Materials - Bibliographies (131)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Annotated Bibliographies; *Autism; Behavior Patterns; Biological Influences; Elementary Secondary Education; *Etiology; Genetics; Group Therapy; Incidence; Interpersonal Competence; *Intervention; Perceptual Development; Play; Prenatal Influences; Psychotherapy; Therapy
IDENTIFIERS	*Infantile Autism

ABSTRACT

The annotated bibliography of over 1,200 citations published between 1943 and 1983 is intended as a comprehensive reference guide to the scientific study of infantile autism. After a search of the literature was conducted, the information was organized by format and subject, first for journal articles (19 topics are concerned with general subjects, such as: epidemiology, genetic and prenatal factors, neurology, attention and arousal, cognition and cognitive processes, and play behavior; 18 topics are concerned with treatments, such as: psychotherapy, group therapy, residential treatment, medical care, and transfer of training); and then for four types of books (those written by professionals, personal accounts, proceedings/symposiums, and foreign books). Entries are arranged alphabetically by author within topic areas and include title, source, date, page numbers, and a brief abstract. (CL)

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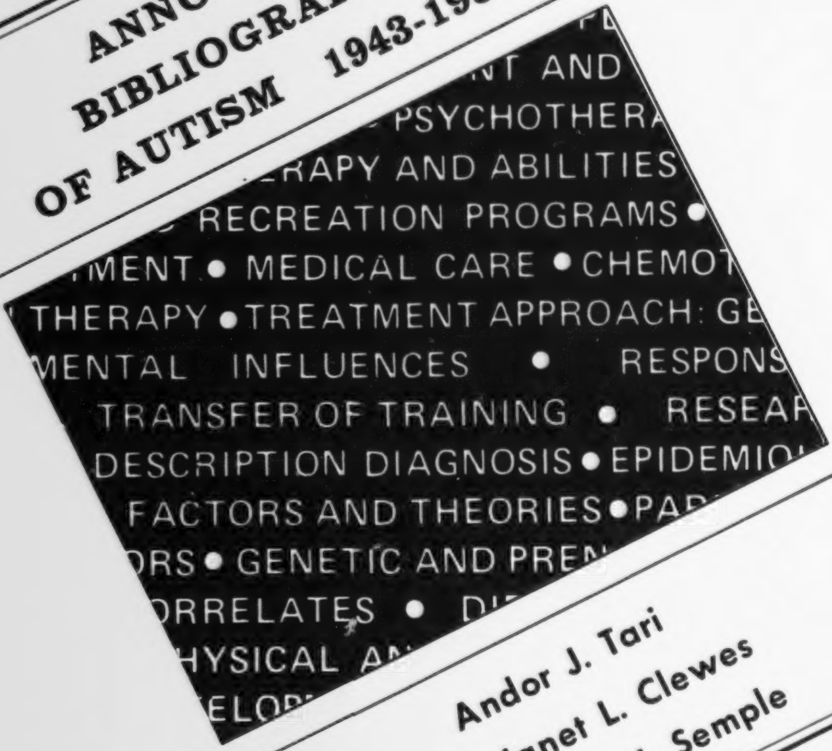
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ANNOTATED BIBLIOGRAPHY
OF AUTISM
1943-1983

Andor J. Tari
with
Janet L. Clewes
and
Shirley J. Semple

Ontario Society for Autistic Children,
Guelph, 1985

ISBN 0-88955-035-2

EC/F29/1

To my wife Joan, who introduced me to autism.

A.J.T.

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ISBN: 0-88955-035-2

Cover design by M. Puddister

Published by the
Ontario Society for Autistic Children
Wellington County Chapter

Copies may be ordered from
16 Caribou Cresent, Guelph, Ontario, Canada, N1E 1C9
Price: $25.00 (Can.) in Canada; $25.00 (U.S.) outside Canada
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FOREWORD

Early Childhood Autism has come over the past 40 years to have a special place among the "types" of difficulties young children contend with in their development; and this for several reasons.

Researchers trying to understand Autism find continuing dilemmas in the range and variety of its manifestations. Those who would help, through specific therapies or education, are faced with a perplexingly unpredictable mixture of successes and failures. Those who live with such children, their parents, can find the experience of alternating hope and despair hard to endure. Those whose responsibility it is to design and administer social services can find traditional forms of those services to be inappropriate for the needs of autistic children. In short, Autism is hard to understand, to treat, to live with, and to meet with appropriate services.

Each of these broad approaches had contributed to an increasingly large and diverse body of literature about Autism. In their different ways "abstracts" and periodic "literature reviews" annotate, collect and summarize this growing body of work. Annotated bibliographies serve an additional useful purpose by combining and generalizing the peculiar virtues of abstracts and specialized reviews.

The careful and laborious work of Dr. Tari in putting together this Bibliography leaves all who work with autistic children in his debt. The breadth of his search for material, the annotations, and the useful subdivisions provided, make this collection a valuable resource for the wide variety of people who, for an equally wide variety of reasons, need to find out what has been written about autistic children. All who use the bibliography will hope that it will be followed at intervals by new editions which include new material.

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ACKNOWLEDGEMENTS

This work was supported in preparation by the Hilroy Foundation Fellowship Program (established by the Roy C. Hill Charitable Foundation, a Canadian fellowship program). Without the generous help of the Foundation, this would not have been possible.

We also wish to acknowledge with appreciation the permission of the:

(1) Society for Research in Child Development Inc., for the use of Child Development Abstracts and Bibliographies (CDA),

(2) Council for Exceptional Children Publications for the use of Exceptional Child Education Resources (ECER),

(3) The Oryx Press, for the use of Current Index to Journals in Education (CIJE),

(4) Sociological Abstracts, for the use of Language and Language Behavior Abstracts (LLBA), and

(5) The American Psychological Association for the use of the Psychological Abstracts (PA).

Finally, special thanks go to the authors who provided us with commentary on their work. They helped us to provide the reader with the unique format of author annotations in the Book section of this work.

INTRODUCTION

The condition of early infantile autism has generated and maintained a great deal of interest ever since the appearance of Leo Kanner's milestone article, titled "Autistic disturbance of affective contact" in a 1943 issue of the since defunct journal, the Nervous Child. Thousands of articles and well over a hundred books dealing specifically with autism have appeared since the condition became a diagnostic entity. Scientists have been diligently studying this curious phenomena and the lay public, including parents have also published their findings and experiences with autism and autistic children.

There have been attempts to order this extensive body of literature. Examples of such undertakings are the works of Bryson and Hintgen (1971), the "Selective Bibliography" by the National Institute of Education (1976), and the more recent effort of Simpson and Regan (1982). However, most previous bibliographies covered the publications of a relatively brief time span in the history of autism, for example articles appearing between 1964-1979, and 1966-1975. Others included in the annotated works related to a wider range of pathologies, including autism.

Our plan was to provide a comprehensive annotated bibliography of all the published scientific articles on autism from 1943-1983. We also wanted to annotate books which specifically focus on autism. Our difficulty was in making decisions about which books should be included. Many texts, especially with focus on psychopathology of childhood and/or adolescence include autism in their coverage. If we were to annotate all such texts, our task would have been virtually impossible. Therefore, we decided to include only those books which specifically focus on autism. In the case of books, we also decided to include not only scientific texts but the works of parents as well. We felt that this would acknowledge the importance of the contribution of parents and other advocates in the understanding of autism.

This annotated bibliography is intended to meet the needs of all individuals interested in autism. We feel it will serve as a quick reference to parents, students, teachers, and researchers alike. We view it as a useful reference in libraries, service agencies, and individual researchers/academics in their work.

It is hoped that the bibliography will be well received. We also hope that we will be able to carry on with annotating works on autism and to be able to publish a followup volume in 2-3 years.

A.J.T.
J.L.C.
S.J.S.

USERS' GUIDE

The primary objective of this annotated bibliography was to provide the reader with a comprehensive reference guide to the scientific study of infantile autism. In keeping with this goal, the following discussion will serve to delineate the principles we used in guiding our selection of annotations.

First, a search of the literature pertaining to autism was conducted primarily though computer and abstracting services. It was decided that only those journal articles and books dealing specifically with *infantile autism* would be annotated. For example, articles or books dealing with a range of psychopathologies (including autism) were *not* considered. In addition, no effort was made to include sources of information contained in newspaper articles, television shows, interviews, etc.

Second, the collected information was then categorized into various areas of autism research and study according to the most substantive areas covered. However, the process of cross-categorizing annotations under several subheadings of autism was found to be far too unwieldy.

Third, abstracting services were contacted and asked for their permission for the utilization of some annotations. In a few instances no annotations were found to be available and in such cases the articles were simply cited. In the case of books we attempted to contact authors for personal annotations of their works, and every effort was made to include as many of these as possible.

Finally, in order to make the annotated bibliography optimally accessible for the user, an index of authors was prepared. All the authors cited in the original articles and annotations were to be included. However, some of the annotations contained the name of one author only and in such instances we were able to include only the name of senior author.

ABBREVIATIONS

CDA	Child Development Abstracts and Bibliographies
CIJE	Current Index to Journals in Education
ECEA	Exceptional Child Education Abstracts (also referred to as ECER)
LLBA	Language and Language Behavior Abstracts
PA	Psychological Abstracts

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DEFINITION, DESCRIPTION, AND DIAGNOSIS

01. Adkins, P.G., & Ainsa, T.A. (1979). The misdiagnosis of Matthew. Academic Therapy, 14 (3), 335-339.

Presented is a case study illustrating the harmful effects of misdiagnosis. The erroneous diagnosis of an autistic child as deaf caused further delays and setbacks in the child's development, and could have been even more harmful if not discovered at an early age. (From LLBA, 1982, 16 (2), Abstract No. 8203480).

02. Asperger, H. (1968). Zur differential diagnose des kindlichen autismus. (On the differential diagnosis of early infantile autism). Acta Paedopsychiatrica, 35 (4-8), 136-145.

According to the author, differential diagnosis is necessary to separate infantile autism from other like conditions, such as schizophrenia, mental retardation, and organic states. He also sees it necessary to differentiate between the "Kannerian autism" and the "Asperger syndrome". (From PA, 1969, 43 (1), Abstract No. 4144).

03. Bakwin, H. (1954). Early infantile autism. Journal of Pediatrics, 45 492-497.

The symptoms, differential diagnosis, etiology prognosis, and treatment of infantile autism are presented. In a report of a follow-up of 42 cases 4 to 19 years after first acquaintance only 13 were able to function with some degree of competence at home and in the community. None of the varieties of psychiatric treatment employed had any noticeable effect on the course of the illness. (From CDA, 1956, 30 (1-2), Abstract No. 392).

04. Bartak, L. & Rutter, M. (1976). Differences between mentally retarded and normally intelligent autistic children. Journal of Autism & Childhood Schizophrenia, 6 (2), 109-120.

Examined were differences between mentally retarded and normally intelligent autistic children. Thirty-six male Ss under 11-years-old were studied, and those with a non-verbal IQ of 69 or less were compared with those whose score was 70 or above. The groups were similar in terms of the main phenomena specifically associated with autism; however, in terms of scholastic progress, social competence, and work opportunities, IQ level appeared as influential as autism. Mentally retarded Ss more often showed self injury, hand and finger stereotypies, deviant social responses, and delayed social development. (From ECEA, 1977, _9_ (1), Abstract No. 090036).

05. Bashina, V.M. (1974). O sindrome rannego detskogo autizma Kannera (Russian). The syndrome of Kanner's early childhood autism. _Zhurnal nevopatologii i psikhiatri imeni_ , _74_ (10), 1538-1542.

Data on the mental development of 32 patients with Kanner's early childhood autism syndrome reveal that the syndrome is a form of congenital dysontogenesis. Special forms of disturbed motor development, speech and play activities, and emotional and general behavior of these children are described. In one-third of the cases, disorders developed slowly. In the remaining two-thirds, symptoms inherent in different forms of schizophrenia eventually appeared. Thus, Kanner's syndrome should be included in the range of schizophrenic disorders. (From LLBA, 1975, _9_ (1), Abstract No. 7500766).

06. Bender, G. (1959). Autism in children with mental deficiency. _American Journal of Mental Deficiency_, _64_, 81-86.

Bender reviews the use of the concept of autism in children who are intellectually, emotionally, and socially underdeveloped. She finds the concept useful but not quite satisfactory. She also looks at autistic behavior, thinking, and action as part of general development and suggests that the sheer presence of autism does not imply mental illness. Autism becomes an illness and when the condition persists and becomes the primary method of dealing with the world. (From PA, 1961, _35_, Abstract No. 1040).

07. Bhatara, V. (1980). Using DSM-III to clarify the diagnosis: Overlap of autism, mental retardation, and CNS dysfunction. _Psychiatric Annals_, _10_ (8), 31-39.

In light of the definition of autism by DSM-III the overlap of conditions with similar symptomatology such as retardation and CNS dysfunctions is reviewed. A multi-axial approach is suggested and the author reviews the strengths and weaknesses of the DSM-III system of diagnosis. (From PA, 1982, _67_ (1), Abstract No. 1316).

08. Bonnefil, M. (1976). Crisis and diagnosis: Infantile autism. _Clinical Social Work Journal_, _4_ (4), 276-288.

"Crisis theory" based model of diagnosis of autism is offered especially when relating findings to the parents.

The author offers the data of 22 autistic individuals as clinical evidence in support of the usefulness of the model. This study also suggests that while there is a tendency to involve the parents in therapy, there is however little evidence that clinicians have recognized the significance and necessity of the process of "mourning". (From PA, 1979, 61 (2), Abstract No. 13987).

09. Bouchariat, J., & Audrey, B. (1966). A propos de l'autisme chez l'enfant debile. (Apropos of autism in the mentally retarded child). Annales Medico-Psychologiques, 2 (4), 532.

"Semeiologic" distinction is drawn between infantile autism and oligophrenic conditions. Focussing on the latter, the authors state that "aprosexia" (inability to give sustained attention) is the primary, while the disorder of interaction of psychogenic nature is only a secondary factor. (From PA, 1968, 42 (1), Abstract No. 1045).

10. Bower, B. (1981). Autism: A world apart. Science News, 119 (10), 154-155.

Describes research on the causes, treatments, and diagnoses of autism. Describes a statewide outpatient program in North Carolina which includes elements of behavior modification, developmental assessment, problem-oriented goal setting, community support, and the training of both child and parent. (From CIJE, 1981, Abstract No. 1045).

11. Braconnier, A., & Ferrari, P. (1982). Autisme infantile: voies actualles de recherche. Acta Paedopsychiatrica, 48, 139-147.

Before research on childhood autism can effectively proceed, an internationally accepted definition of infantile autism must be constructed. There are, in addition, methodological problems. (From CDA, 1983, 57 (1-2), Abstract No. 710).

12. Carew, J. (1978). Early childhood autism: A review of concepts and resources. Family Involvement, 10 (5), 29-45.

The article reviews definitions and concepts of autism and surveys about 20 books and articles selected for parents of autistic children. Citing researchers, the author focuses on the distinction between autism and later childhood psychosis, with particular attention to the role of parents, especially mothers, in autism. (From ECEA, 1980, 11 (4), Abstract No. 11 4802).

13. Castro, G., & Numa, P. (1970). Consideractiones sobre el autismo precoz infantil. (Considerations on precocious childhood autism). *Revista de la Clinica de la Conducta* *3* (6), 25-34.

The review considers the relationship between infantile autism, symbiotic psychosis and childhood schizophrenia. The focus is on the literature of "precocious childhood autism" and the authors describe its various characteristics. They also suggest that children with this condition develop schizophrenic reaction in adulthood and/or show signs of "little" or "great" schizophrenia and autism. (From PA, 1972, *48* (1), Abstract No. 3371).

14. Cerny, J. (1971). Mahler's symbiotic psychosis: Contributions to differential diagnosis with regard to L. Kanner's early infantile autism. *Ceskoslovenska Psychiatrie*, *67* (4), 230-236.

A single-case study comparing and contrasting the Kannerian early infantile autism and Mahler's "symbiotic psychosis". Differential diagnosis is emphasized. The study compares "age of onset" with the Kannerian autism appearing between the first and second year of life and the symbiotic psychosis around the third year. In symbiotic psychosis, the affect is blunt with little differentiation and affective demonstration. The child's contact with the world deteriorates regardless of the milieu and the caregivers. This condition is a chronic one and it tends to move into a permanent psychotic state. The author suggests that the incidence of this condition is very rare. (From PA, 1973, *49* (2), Abstract No. 7098).

15. Chambers, C.H. (1969). Leo Kanner's concept of early infantile autism. *British Journal of Med. Psychology*, *42* (1), 51-54.

In an attempt to convey an understanding of Leo Kanner's concept of early infantile autism, the concept is traced through its formative stages. By such an approach, it is trusted that a frame of reference is established for more properly evaluating the findings and conjectures of other investigators. (From LLBA, 1969, *3* (2), Abstract Co6611).

16. Chapman, A.H. (1960). Early infantile autism. *American Journal of Dis. Child*, *99*, 783-786.

Early infantile autism is a disorder beginning in infancy and characterized by withdrawal from interpersonal relationships, obsessive need to maintain the sameness of the physical environment, preoccupation with things as opposed to people, and various disturbances of language. The prognosis is guarded, particularly in those children who do not learn to speak by the age of 5. The value of treatment in altering the course of this disorder is not proved. It is important that this syndrome be recognized so that these children can be appropriately managed rather than erroneously consigned to the categories of the mentally deficient, the deaf-mute, or the organically brain-damaged. (From CDA, 1960, 34 (5-6), Abstract No. 721).

17. Clancy, H., Dugdale, A., & Rendle-Short, J. (1969). The diagnosis of infantile autism. Developmental Medicine & Child Neurology, 11 (4), 432-442.

The results are presented of the first part of a study designed to clarify the diagnosis of infantile autism. The nine-point scale devised by Creak and others in 1961 was used as the source of references for data collection. The symptoms of a group of children clinically diagnosed as having infantile autism were analysed. Control groups of normal children, children diagnosed as rubella deaf, as cerebral palsied and as subnormal, were compared with the autistic test group. Using the method of numerical taxonomy, 14 major manifestations of infantile autism were isolated. The following criteria are established for the diagnosis of this condition: No one item of the 14 major manifestations is significant in isolation. The diagnostic value of the scale is in the grouping of the symptoms. A child must show a minimum of seven items before the diagnosis of infantile autism can be considered. As originally specified by Kanner, the child's symptoms must begin in the first three years of life. (From LLBA, 1970, 4 (1), Abstract NoD00078).

18. Cohen, D.J., & Caparulo, B. (1975). Childhood autism. Children Today, 4 (4), 36, 2-6.

Childhood autism is discussed in terms of early symptoms, diagnosis, characteristics in later years, causes, and treatments. It is explained that the essential characteristics of autism (an inability to relate to other human beings in a normal way) can often be observed as early as the first few weeks of life. Diagnosis is viewed as a multi-disciplinary procedure involving social, intellectual, and medical evaluations. It is noted that autistic adolescents and adults maintain odd behaviors when upset or excited even if they have developed language and improved social relations. Current causal explanations of childhood autism are viewed as breaking away from the extreme psychodynamic viewpoint and leaning more toward a physiological etiology (such as mental retardation, organic basis, and language comprhension disturbance theories). Medical and psychological therapies are evaluated with behavior modification seen to be a recent major advance. Briefly mentioned are educational programs for autistic children, other disturbances not classically autistic, and future prospects for educational, therapeutic, and diagnostic procedures. (From ECEA, 1976, 74, Abstract No. 073418).

19. Cohen, D. (1976). The diagnostic process in child psychiatry. Psychiatric Annals, 6 (9).

Diagnostic procedures in child psychiatry are illustrated by considering the diagnostic process that originates from two "classic" types of disorders, minimal brain damage (MBD) and severe developmental disability or childhood autism. The diagnostic process is explained in relation to the following questions: what are the child's competencies; does he or she have a significant problem in development, manifested in social, emotional, or intellectual functioning at home, in school, or in the community; what are the biological, familial, social, and intrapsychic roots of the difficulties, and what maintains them; what forces are facilitating the child's development; is intervention necessary; and if so, of what types. It is noted that clinical dissection of "surface" difficulties allows the clinician to plan specific intervention strategies or to recognize when a child will do well enough without any intervention. (From ECEA, 1977, 9 (3), Abstract No. 092000).

20. Cohen, D.J., et al. (1974). Agreement in diagnosis. Journal of American Academy of Child Psychiatry, 17 (14), 589-603).

The relationship between three diagnostic assessment procedures for 27 pervasively disturbed children (5 to 11 years old) with childhood autism, aphasia, psychosis, and mental retardation was examined. Ratings based on detailed clinical evaluations were in high agreement with a structured method of direct behavioral observation (Behavior Rating Instrument for Autistic and Atypical Children). A parent symptom checklist (Rimland E-2 checklist) diagnosed two Ss as having classical autism (L. Kanner's Syndrome) out of 13 Ss diagnosed as primary autistic by the other two methods. (From ECEA, 1979, 11 (3), Abstract No. 11 3625).

21. Davids, A. (1975). Childhood psychosis: The problem of differential diagnosis. Journal of Autism & Childhood Schizophrenia, 5 (2), 129-138.

Form E-1 of the Diagnostic Check List for Behavior

Disturbed Children of Rimland (DCL) is suggested to be an effective tool in differentiating between autistic and other psychotic and non-psychotic children. The author reports on 4 interrelated studies of 66 former psychiatric patients and the follow-up indicates more positive outcome with the non-psychotics. There appeared to be a significant correlation between the scores on the checklist (DSL) and the reported improvement of the former patients. The DSL scores were also found to be related to the racial origin of the patients. (From PA, 1977, 57 (1), Abstract No. 1345).

22. DeMyer, M.K., Hingtgen, J.N., & Jackson, R.K. (1981). Infantile autism reviewed: A decade of research. Schizophrenia Bulletin, 7 (3), 388-451.

The authors review the progress of the study of infantile autism. The following areas are examined: classification and diagnosis; relation to other disorders; demographics, parental characteristics; genetics; intelligence; language; perceptual processes; behavioral characteristics; neurobiological, biochemical, and pharmacological aspects; behavioral/educational treatment methodologies; prognosis; and theoretical considerations. The generally accepted diagnosis of infantile autism today is describes as a developmental disorder accompanied by severe, and to a large extent, permanent intellectual/behavioral deficits. It is still necessary to define its association with other forms of developmental disorders and to mental retardation. (From PA, 1982, 67 (4), Abstract No. 7869).

23. DeMyer, M.K., Churchill, D.W., Pontius, W., & Gilkey, K.M. (1971). A comparison of five diagnostic systems for childhood schizophrenia and infantile autism. Journal of Autism & Childhood Schizophrenia, 1 (2), 175-189.

Five diagnostic systems designed to differentiate infantile autism and early childhood schizophrenia were compared by deriving scores on 44 children referred consecutively to the same clinical center. While the autistic scales devised by Rimland, Polan and Spencer, Lotter, and the British Working Party correlated significantly, the degree of correspondence (35%) indicated that several children obtained high autistic scores in one system but low scores in another. The BWP's term "schizophrenia" has more correspondence with the term "autism" used by others than with Rimland's "schizophrenia." In the DeMyer-Churchill categorical system (early schizophrenia, primary autism, secondary autism, and non psychotic subnormal), "primary autism" most resembles Rimland's concept of infantile autism as measured by his E-1 version. All other systems differentiate psychotic from non-psychotic children but do not distinguish any of the psychotic subgroups. (From

LLBA, 1971, 5 (4), Abstract No. Eo5060).

24. Despert, J.L. (1971). Reflections on early infantile autism. Journal of Autism and Childhood Schizophrenia, 1 (4), 363-367.

One example of progress of considerable importance in the study of autism is the worldwide recognition of the syndrome. Surveying the presently available studies of infantile autism, one is inclined to give further consideration to two features almost uniformly present in these patients, in spite of the somewhat varied symptomatology. Early in life, a failure to respond to tactile stimulation is noted. In some cases, this failure is translated into a strong defense against such tactile stimulation from the mother or mother figure. In later examination, aborted sexual development is noticed. The children's interest in sex seems, with years, to remain on an immature level and sexual drive is not evident. In the developmental history of these children, the early defective sensory phase may be related to the lack of sexual drive noted in later years. Perhaps the absence of a hormone or other ingredient interferes with early affective development. Lack of affect or stunted affect in early infantile autism is reminiscent of the loss of affect found in early childhood schizophrenia after a normal period of development. (From LLBA, 1972, 6 (2), Abstract No. 7204803).

25. Dyer, C. & Hadden, A.J. (1976). A multi-axial classification for the education of autistic children. Child Care, Health & Development, 2 (3), 155-164.

The authors argue in favour of the World Health Organization's Tri-axial classification of mental disorders and offer further complementary axes to obtain more accurate diagnosis that could aid the planning of the education of the autistic child. They reason that the term "education of autistic children" as currently used is far to broad and should be replaced by reference to specific educational approaches. (From PA, 1976, 56 (2), Absract No. 8764).

26. Easson, W.M. (1971). Symptomatic autism in childhood and adolescence. Pediatrics, 47 (4), 717-722.

The article notes that, while crippling autism may be present in a range of illnesses with psychological and organic etiology, this symptom occurs most frequently when a child has been forced, from infancy or any early age, to live and to grow in his own private world due to a severe perceptual or intellectual handicap. If this symptomatic autism is anticipated, diagnosed, and treated early, it is pointed out that the child may develop in a relatively healthy and productive way. Without appropriate treatment the symptomatic autistic child is liable to be increasingly handicapped; eventually such a child is almost indistinguishable from children who are autistic due to other causes. The paper highlights some of the most common causes leading to symptomatic autism. (From ECEA, 1971, 3 (3), Abstract No. 03 2129).

27. Eisenberg, L. & Kanner, L. (1956). Childhood schizophrenia symposium, 1955. 6. Early infantile autism, 1943-1955. American Journal of Orthopsychiatry, 26, 536-566.

In summary, early infantile autism has been fully established as a clinical syndrome. It is characterized by extreme aloneness and preoccupation with the preservation of sameness, and is manifest within the first two years of life. The history, early onset, and clinical course distinguish it from older childhood schizophrenia, to which it is probably related generically. The degree of aloneness constitutes the important prognostic variable since those children sufficiently related to the human environment to learn to talk have a significantly better outlook for future adjustment. Present knowledge leads to the inference that innate as well as experiential factors conjoin to produce the clinical picture. It remains for future investigation to uncover the precise mode of operation of the pathogenic factors as a basis for rational treatment. (From CDA, 1957, 31 (1-2), Abstract No. 172).

28. Eisenberg, L. (1972). The classification of childhood psychosis reconsidered. Journal of Autism & Childhood Schizophrenia, 2 (4), 338-342.

L. Eisenberg reponds to M. Rutter's paper on the classification of children's psychotic disorders, and agrees with Rutter's support of a multiaxial classification scheme which specifies the clinical syndrome, the intellectual level, any associated or etiological biological factors, and any associated or etiological psychosocial factors. The multiaxial scheme is said to facilitate communication among specialists who tend to emphasize different aspects of the same cases even after agreement has been reached on the clinical phenomenology of the case. The author agrees that clinical evidence supports the existence of three main categories of childhood psychosis: schizophrenia, disintegrative psychosis, and infantile autism. (From ECEA, 1973, 5 (2), Abstract No. 05 1325).

29. Ekstein, R. & Friedman, S. (1974). Infantile autism: From entity to process. Reiss-Davis Clinic Bulletin, 11 (2), 70-85.

In a detailed case study the authors focus on communication as an epigenetic developmental process and its effect on therapeutic endeavours. It is suggested that such a perception of the syndrome as a whole would change infantile autism from the static diagnostic entity to a state of dynamic process. (From PA, 1978, 60 (1), Abstract No. 3200).

30. Elgar, S. (1966). The autistic child. Slow Learning Child: The Australian Journal on the Education of Backward Children, 13 (2), 91-102.

The aims and objectives of the Society School for Autistic Children is described. The children are perceived and treated as "handicapped" with emphasis on "training". The children are grouped in accordance with their handicaps and the sample of a day's activities are given to illustrate the process of specialized training. The school attempts to train the autistic child social graces, independence, and an "understanding of language". The school also aims to teach each child basic subjects in a 1:1 teacher-child relationship. (From PA, 1967, 41, Abstract No. 5009).

31. Fine, H. (1979). Cues and clues to differential diagnosis of childhood autism. Psychotherapy: Theory, Research & Practice, 16 (4), 452-459.

To the author the nature of autism, its definition, epidemiology, and dynamics remain controversial and this lack of agreement effects the treatment of the autistic child. A definition is offered with some diagnostic procedures. The diagnostic process involves observation, history taking, and treatment techniques such as intrusion and interaction. It is suggested that no single item or response should be seen as a pathognomonic sign and the clinical decision should be based on a whole series of reactions. (From PA, 1980, 64 (1), Abstract No. 5772).

32. Fisher, E. (1973). Der fruhkindliche autismus. Sein psychopathogishes Bild und das problem seiner nosologischen einordnung (Ger). Early infantile autism. Its psychopathology and the problem of nosological classification. Acta Paedopsychiatrica, 39 (8-10), 203-212.

Very different psychopathological conditions are frequently diagnosed under the term "early infantile autism" which should, however, be carefully distinguished from one another. Consequently, it seems appropriate to refer again to the syndrome of early infantile autism as it has been described by Kanner. Early infantile autism is a specific form of childhood schizophrenia. Kanner's arguments are augmented by a hypothesis founded on constitutional nosology. Finally, the question of the nosological relationship of Kanner's syndrome with Asperger's autistic psychopathy is considered. (From LLBA, 1973, 7 (2), Abstract No. 7304325).

33. Freeman, B.J. (1978). The syndrome of autism: The problem of diagnosis in research. Journal of Pediatric Psychology, 2 (4), 142-145.

Delineated are the problems of research in the field of autism. Two problems - lack of objective diagnostic specificity and heterogeneity of research populations - are reviewed and discussed in terms of their implications for basic behavioral and biological research. A research project aimed at mitigating these problems is briefly discussed. (From ECEA, 1979, 11 (1), Abstract No. 11 0878).

34. Furneaux, B. (1966). The autistic child. British Journal Disord. Commun., 1 (2), 85-90.

A discussion of the definition, description, etiology, and treatment of autism. Special attention is paid to past reseach on autism and its reflection in speech. (From LLBA, 1967, 1, p. 143).

35. Gibson, D. (1968). Early infantile autism: Symptom and syndrome. Canadian Psychologist, 9 (1), 36-39.

60 cases are examined and the interrelation of neurological status, behavioral symptoms and parent education is studied. The author suggests that the interaction may be the result of multi-faceted neuropathology and expectation stress of the parents. He recommends behavioral remedies and educational patterning. (From PA, 1968, 42 (2), Abstract No. 10883).

36. Goodman, J. (1972). A case study of an "autistic-savant": Mental function in the psychotic child with markely discrepant abilities. Journal of Child Psychology and Psychiatry and Allied Disciplines 13 (4), 267-278.

A description of discrepant mental function in an autistic-savant boy, so labelled because he has the behavior of an autistic child and the cognitive profile of the idiot savant. Major findings are that: perception is adequate for visual discrimination, but not for spatial orientation; superior memory exists for specialized data of limited scope and is explained, not by unusual rates of initial learning, but by a failure to forget; abstract associations are formed while developmentally easier tasks are failed. It is suggested that these contradictions - frequently found in psychotic children - are a natural developmental outcome of deficiencies in somatic awareness. (From LLBA, 1973, 7, p. 598).

37. Hingtgen, J.N., & Bryson, C.Q. (1972). Recent developments in the study of early childhood psychoses: Infantile autism, childhood schizophrenia, and related disorders. Schizophrenia Bulletin, 5, 8-54.

Recent developments in the study of early childhood psychoses including infantile autism, childhood schizophrenia, and related disorders were reviewed in terms of description, diagnosis, intellectual functioning, language characteristics, perceptual processes, neurobiological research, therapeutic procedures, and theoretical positions. It was noted that descriptions of symptomatology were remarkably similar for all forms of childhood psychoses despite the variety of diagnostic classification systems. The authors cited studies showing that the majority of psychotic children demonstrated moderate or severe intellectual retardation, serious communication deficits, gross disturbances of perceptual processes, and various types of neurobiological dysfuntion, and that parental psychpathology was not as important a causative factor in childhood psychosis as was originally thought. Body stimulation, group therapy, special educational, and behavior modification techniques of treatment are discussed. Also examined was the amount of empirical support for theories stressing nonorganic, organic-experiential interaction, and organic factors, respectively. Approximately 315 references were given. (From ECEA, 4 (4), Abstract No. 04 2630).

38. Hoshino, Y., Yashima, Y., Kaneko, M., Tachibana, R., Watanabe, M., Makoto,, K., Hishashi, U., Bunya, T., Takahashi, E., & Rurakawa, H. (1980). Early symptoms of autism in children and their diagnostic significance. (In Japanese). Japanese Journal of Child and Adolescent Psychiatry, 21, 284-299.

This study seeks to examine the abnormalities of the mental development (early symptoms) of autistic children up to 2 years old and to compile a checklist for the early diagnosis of autism. Twenty-seven characteristic early symptoms of autism were found. (From CDA, 1982, 56 (3-4), Abstract No. 1334).

39. Isaev, D.N., & Kagan, V.E. (1974). Autistic syndromes in children and adolescents. Acta Paedopsychiatrica, 40 (5), 182-190.

Several variants of infantile autism are discussed, with the exception of childhood schizophrenia and Kanner's early infantile autism (See Acta Paedo-Psychiatrica, 1958, 25, 108-113). The specificity of the organization of cognitive processes, the inconsistency of behavior, the strange nature of interests, and communication which are characteristic of autistic psychopaths are reported. Peculiarities of autistic manifestations within the framework of organic autism depend on insufficient psychical tension, under-developed space-time notions, insufficiency of intelligence as a whole, and the presence of epileptic seizures. Autism may also occur in the form of somatogenic or psychogenic reactions and pathological personality development. It is also reported that infantile autism is a non-specific syndrome of childhood. Peculiarities of the clinical manifestations are associated with peculiarities of the basic disorder. Correlations of clinical, psychological, EEG and PEG data are suggestive of defects and distortions in the system of motivation and behavioral planning. (From LLBA, 1974, 8 (2), Abstract No. 74 05919).

40. Ives, L.A. (1971). Infantile autism; Some comments on aspects of differential diagnosis. British Journal of Disorders of Communication, 6 (2), 154-160.

A case history of a boy aged 7 years 5 months, exhibiting true infantile autism. "Autistic" describes: (1) abnormal behavior in severely subnormal children; (2) stress reactions in children with developmental language disorders or minimal cerebral dysfunction affecting language and nonverbal skills; or (3) children with defective personality development, when these children do not satisfy the criteria for infantile autism. The possibility of confusion when "autistic," as used to describe these children, could be thought by some worker to be synonymous with infantile autism, is stressed. An observation sheet found useful for recording affect in infants and children seen in the Department of Audiology and Education of the Deaf, Manchester University, is described and discussed with reference to children in categories mentioned above. Problems of psychogenic etiology, the wide scatter in developed intelligence in children with infantile autism, and educational diagnosis and placement are discussed. (From LLBA, 1972, 6 (1), Abstract No. 7203000).

41. James, A.L. & Barry, R.J. (1981). General Maturational lag as an essential correlate of early-onset psychosis. Journal of Autism and Developmental Disorders 11, 271-283.

The failure of research to give methodological consideration to control of developmental variables is discussed, and implications for the interpretation of results from experimental studies are outlined. (From CDA, 1982, 56 (5-6), p. 355).

42. Kanner, L. (1949). Problems of nosology and psychodynamics of early infantile autism. American Journal of Orthopsychiatry, 19, 416-426.

A study was made of 55 "autistic" children and their parents. Characteristics of these children were the following features: profound withdrawal from people, an obsessive desire for preservation of sameness, a skillful and even affectionate relation to objects, the retention of an intelligent and pensive physiognomy, and either mutism or language which does not serve the purpose of interpersonal communication. The author discusses the nature of this disease pointing its close relationship with childhood schizophrenia. The investigation of the hereditary backgrounds of the 55 children revealed that with the exception of the one parental aunt of one child, there was no history of overtly psychotic or hospitalized relatives. There was no instance of an autistic child of unsophisticated parents. Along with the dominant feature of high intelligence among parents of these children were the following features in the situation: mechanization of human relationships, undemonstrative emotional behavior to both spouses and children, absence of wholehearted interest in people in general, over-intellectual attitudes toward children, inability to enjoy children as such, a subtle rejection of children concealed by overconscientious rearing of them. (From CDA, 1950, 24, Abstract No. 441).

43. Kanner, L. (1946). Irrelevant and metaphorical language in early infantile autism. American Journal of Psychiatry, 103, 242-246.

The author discusses early infantile autism, a condition which he observed in 23 children and describes as "extreme withdrawal and disability to form the usual relations to people... from the beginning of life." Excessive aloneness and an anxiously obsessive desire for the preservation of sameness are characteristic. Some of the other features listed, were: backgrounds of psychometrically superior though literal minded and obsessive families; the use of simple verbal negations as magic protection against unpleasant occurrences; the echolalic-type repetition of whole phrases; pronominal reversals of the you and I; and utterances which appear to be irrelevant, nonsensical, amd incoherent. It was found that such utterances were metaphorical expressions and that transfers had been made by substitution, generalization, or restriction. Case histories illustrate the various type transfers. (From CDA, 1946, 20, Abstract No. 667).

44. Kanner, L. (1973). The birth of early infantile autism. Journal of Autism and Childhood Schizophrenia, 3 (2), 93-95.

A presentation of a psychiatrist's first encounters with autistic children, and the search for a precise identifying designation for their condition. (From LLBA, 1974, 8 (1), Abstract No. 7403082).

45. Kanner, L. (1965). Infantile autism and the schizophrenias. Behavioral Science, 10 (4), 412-420.

A historical review of the development of the diagnostic entity of infantile autism. Kanner supports the plurality of schizophrenias and the position of infantile autism is elucidated. (From PA, 1966, 40 (1), Abstract No. 3179).

46. Kanner, L. (1944). Early infantile autism. Journal of Pediatrics, 25, 211-217.

Two cases of early infantile autism are described and characteristics of 20 cases of this condition observed by the author are discussed. In spite of individual variations, the 20 children presented the same features of extreme autistic aloneness. If language was used it did not serve to convey meaning to others. An excellent rote memory and a good relation to objects is common to all. The children paid no attention to people. The parents and family background show a high degree of intelligence but in this group there were very few warm-hearted fathers and mothers. (From CDA, 1945, 19 (1-2), Abstract No. 1880.

47. Kanner, L. & Eisenberg, L. (1957). Early infantile autism, 1943-1955. Psychiat. Res. Rep., 7, 53-65.

In this study the authors confirm the legitimacy of early infantile autism as a diagnostic entity. The cardinal signs of onset (the condition appears in the first two years of life), extreme aloofness, and preoccupation with maintaining sameness are emphasized. Innate and experiential factors are implicated in the etiology of the condition and data of 120 cases used as supportive evidence of the authors' hypothesis. (From PA, 1959, 33, Abstract No. 901).

48. Kanner, L. (1951). The conception of wholes and parts in early infantile autism. American Journal of Psychiatry, 108, 23-26.

Describes autistic children as showing a peculiar type of obsessiveness that forces them to postulate imperiously, a static, unchanged environment. Changes within this environment causes perplexity and major discomfort. The security autistic children find in sameness is temporary because of the constant changes that do occur. Therefore, their security is always being threatened and they are constantly trying to ward off this threat. (From PA, 1953,27, Abstract No. 1288).

49. Kawabata, T. (1971). Current problems of the studies on autistic children in Japan. Japanese Journal of Child Psychiatry, 12, 233-243.

One of the main subjects of current studies on autistic children in Japan has been to classify and define autism. Many people have been occupied with defining and clarifying this phenomenon. Such attempts, however, have not clarified but rather confused our thinking about diagnosis, treatment, and education for autistic children. Some recent studies tried to understand the behavior of autistic children not as symptoms of a disease but as the result of a bias or distortion in development. It seems to us that these were headed in the right direction but they misunderstood some aspects of development, especially the development of intelligence. The memories of autistic children are limited to numbers, letters, etc., and these have been considered an indication of intelligence but they are really only products of a mechanical learning process and the limited perception and concentration of these children on 1 subject. Three cases were observed by us and the following point was indicated as an important subject for future studies on autistic behavior. Their sensitivity to stimuli underwent changes with their growth. To promote their development, it is necessary to direct their attention to objects according to the level of awareness or alertness which is most appropriate to their stage of development, because the process of development should be to integrate what they perceive and recognize with their total psychic structure. (From CDA, 1972, 46 (3-4), Abstract No. 603).

50. Kestenberg, J.S. (1955). The history of an "autistic" child: Clinical data and interpretation. Journal of Child Psychiatry, 3, 5-52.

Reviews the case history of an autistic child, and follows the details from several years of therapy. Presents this as an illustration of children with abnormal ego development where a diagnosis cannot be defined. Discusses the diagnostic and dynamic problems involved in this type of behavior problem. (From PA, 1955, 29, Abstract No. 1144).

51. Lochaya, E. (1970). The lost child. National Society for Autistic Children. Health News, 1-7.

The booklet discusses the autistic child and attempts to show that the symptoms of childhood autism may well overlap other disability areas. Emphasis is placed on the idea that the child receive help at his own level and not the level of his label. The League School for Seriously Disturbed Children in Brooklyn, New York is cited as a model for the individualized treatment concept. (From

ECEA, 1971, 3 (2), Abstract No. 03 1692).

52. Loomis, E.A. (1960). Austistic and symbiotic syndromes in children. Monograph of the Society for Research in Child Development 25 (3, No. 77), 39-48.

States common behavior deviations include delayed echolalia and spinning of objects. Some children react pathologically to separation from the mother and they often learn to read before the use of speech. (From PA, 1961, 35, Abstract No. 5169).

53. Loret, L., & Born, M. (1972). Mental deficiency, autism, and reeducation. (Fren). Feuillets Psychiatriques de Liege, 5 (1), 45-52.

Reviews the problem of distinguishing between the effects of autism and of mental retardation. Used data from one institution. There were at least three autistic symptoms, as described by C. Koupernik and L. Eisenberg, found in 1/3 of all mental deficiency cases in all categories except Mongoloids. As IQ decreased, the proportion increased. (From PA, 1973, 49 (2), Abstract No. 7223).

54. Lotz, B.M. (1977). A survey of criteria used by university affiliated facilities for the identification and diagnosis of autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

Among results of the study of 32 University Affiliated Facilities were that "impaired or complete lack of relatedness and social inaccessibility to children, parent, and adults" received the highest average diagnostic value; and that "abnormal electroencephalograph patterns" received the lowest average diagnostic value. (From ECEA, 1979, 11 (2), Abstract No. 113207).

55. Lowenstein, L.F. (1976). The autistic child. News and Views, 2 (7), 21-26.

Discusses problems in diagnosis, a case study, guidelines to parents, possible causal factors, treatment, and results of the author's own research. This was a study of 26 male and 6 female children over a period of 14 years. Treatment was successful for 12 children, moderately successful for 10 and minimally successful for 10. Degree of improvement in communication capabilities, simple perceptual and motor abilities, and capacities were used to measure success. (From PA, 1977, 57 (2), Abstract No. 12910).

56. Makita, K. (1975). Contemporary concept of autism and autismus infantum. Acta Paedopsychiatrica, 41 (4-5), 162-169.

Autism in children is discussed. "Pseudo-autism" is separated from the seemingly like but actually different condition that Kanner sets forth in his diagnostic criteria of "early infantile autism." Rather than using Van Krevelen's proposed classification - "autismus infantum" (See "Autismus infantum" Acta Paedopsychiat. 1960, 27, 97-107) - at the outset of the study, autism is first classified under the heading of childhood schizophrenia. However, a definite difference in onset curves exists for so-called childhood schizophrenia, which indicates that a distinction can be made between infantile & late onset groups; also, organic involvement is sometimes found. This evidence indicates that existence of a single entity, childhood schizophrenia, is questionable; thus, Van Krevelen's concept - which views autism as a non-specific syndrome without exclusive nosological implications - is adopted. (From LLBA,1977, 11 (1), Abstract No. 7701083).

57. Mnuknin, S.S. & Isaev, D.N. (1975). On the organic nature of some forms of schizoid or autistic psychopathy. Journal of Autism & Childhood Schizophrenia, 5 (2), 99-108.

Four representative case histories illustrating typical characteristics of autism showed patients (10 to 15 years old) to exhibit several clincial features compatible with organic encephalopathy. Physical signs (such as hypoplastic fingers and high palate) suggested that the presence of an underlying cerebral dysgenesis were particulary frequent. Patients superficially resembled schizophrenics but differed in their delayed and peculiar intellectual development, the response of their behavior to external stimuli, and their frequent and severe motoric defects. Evidence from observations and literature indicated that autistic patients have an organic deficiency of brain function determined congenitally or in the early postnatal period. (From ECEA, 1976, 7 (4), Abstract No. 07 3562).

58. Mnukhin, S. S., Zelenetskaya, A.E., & Isaev, D. N. (1967). O sindrom "rannego detskago autisma" ili sindrome Kanner u detel. (On the syndrome of "early childhood autism" or Kanner's syndrome in children). Zhurnal nevropatologii i Psikhiatrii, 67 (10), 1501-1506.

A report of observations conducted over a 5 yr period of 36 male and 8 female 2-14-yr-old autistic children. The authors attempt to clarify the literature on symptomatology, pathogenesis, and nosological nature of Kanner's syndrome. They note that childhood autism is a distinctive variety of psychic underdevelopment in which affective-volitional disorders and a schizoform behavior caused by an underdevelopment of the activating "energy-discharging" systems of the brainstem are prominent. Therefore,they claim childhood autism must be excluded from the frame of schizophrenia because the structure of mental defecits, noted in this S sample, is qualitatively different from that in true oligophrenia, and their mental deficiency is usually overlaid with gross disorders of personality and behavior. Concrete "registering" thinking and prolonged inablity to master reading, writing, and arithemetic skills and operations in a sequence are all characteristics. Good memory and speech, an ability to reproduce parrot-like excerpt from speech, a musical ear, and a tendency to fantasize often mask these disorders. (From PA, 1968, 42 (2), Abstract No. 14219).

59. Mulcahy, R.F. (1973). Autism: Beautiful children. C.S.M.R. Bulletin, 1 (3), 73-77.

An overview of autism is provided. Patterns of behavior are identified and the relationship between autism and mental retardation is examined. Consideration is given to two theories of etiology - organic deficiency and environmental deficiency. Operant conditioning as a treatment technique is discussed. (From ECEA, 1975, 6 (4), Abstract No. 06 2810).

60. National Society For Autistic Children. (1978). Definition of the syndrome of autism. Journal of Autism & Childhood Schizophrenia, 8 (2), 162-169.

The National Society for Autistic Children sets forth the essential features (disturbances of developmental rates and sequences, of responses to sensory stimuli, of speech, language-cognition and nonverbal communication; and of the capacity to appropriately relate to people, events, and objects) and associated features of autism. Also reviewed are the following aspects of autism: degree of impairment, age of onset, etiology, incidence, and sex ratio, complications, differential diagnosis, family factors, predisposing factors and operational criteria. (From ECEA, 1979, 11 (1), Abstract No. 110792).

61. Nawa, A. (1979). The nature of early childhood autism: A follow-up study of three groups of autistic children. Japanese Journal of Child & Adolescent Psychiatry, 20 (4), 214-137.

A follow-up study of 52 autistic children for periods ranging from 6 to 18 years. Before the age of three, all had developed poor interpersonal relationships, retarded speech and language development, and ritualistic and compulsive behavior. Three groups were defined on the basis of language development, intelligence, and behavioral changes over time: 1) severe autistic disturbances in interpersonal relationships, poor symbolic functioning, and intellectual deficiencies; 2) improved interpersonal relationships and intellectual abilities with the beginning of symbolic functioning; and 3) generalized severe retardation with immature language development and interpersonal relationships. Only the first group's characteristics are attributed to early childhood autism. (From PA, 1981, 65 (2), Abstract No. 129043).

62. Nesnidalova, R. (1972). The diagnosis and differential diagnosis of infantile autism. Cechoslovenska Psychiatrie, 68 (4), 235-243.

The author discusses the literature on infantile autism and presents various theories along with those of Bleurer and Kanner on the etiology of autistic disturbances. Describes the nature and characteristics of early childhood autism and discusses the difficulties of definition, diagnosis, and nosological classification. (From PA, 1974, 51, (1), Abstract No. 3360).

63. Nissen, G. (1971). Zur klassifikation autisticher syndrom im kindesalter. (Suggestions for a classification of autistic childhood syndromes). Nervenarzi 42 (1), 35-39.

On the basis of available theories and observations of psychogenic and somatogenic autistic childhood syndromes, and demarcated by a defectogenic "pseudo-autism", the author discusses the typical psychopathic and preschizophrenic forms of autism. Inherited genetic autism is believed to underly all autistic childhood syndromes. It can emerge due to a strong environmental strain from latency and lead to a psychogenic autism, manifesting in a psychopathic syndrome or in a preschizophrenic syndrome, or appear due to a brain-organic lesion, as a somatogenic autism. For various autistic childhood syndromes, including inherited, peristatic, and somatic factors, the differential typological classification offers simplified diagnostic possiblities for a prognosis of preschizophrenic, psychopathic, and somatogenic syndromes. The above can be applied to therapy too. (From PA, 1972, 47 (1), Abstract No. 1322).

64. Noll, R.B., & Benedict, H. (1981). Differentiations within the classification of childhood psychoses: A

continuing dilemma. *Merrill-Palmer Quarterly*, *27*, 175-195,

We review literature and conclude that infantile autism and childhood schizophrenia constitute two distinct groups. We propose that there is a third group, developmental psychosis. This disorder, illustrated by a detailed case history, is partially characterized by onset before 30 months, an initial autistic-like phase characterized by withdrawal, bizarre responses to the environment, and imparied communication: and some expressive language before age 3. (From CDA, 1983, *57* (1-2), Abstract No. 757).

65. Okunomiya, Y., & Hashimoto, T. (1971). The autistic symptoms and characteristics of mental development among 3 1/2-year-old children. *Japanese Journal of Child Psychiatry*, *12*, 168-174.

The purposes of this study are as follows: (1) To examine to extent there are similarities between the characteristic features of the speech and behavior in 3-1/2 year old children and the so-called autistic symptoms. (2) To examine what kinds of symptoms should be noticed in order to identify so-called autistic children in this stage of development. (3) To clarify the problematic points of the questionnaires used in relation to the basic symptomatology of the autism. The method of this study is as follows: the mental development and present states of 476 children at the age of 3-1/2 were checked, from July to December, 1970, by means of questionnaires with special considerations given to so-called autistic symptoms on the occasion of health examinations of these children. Interviews of children and their mothers were made when some problematic points arose in the questionnaires. (1) It was noticed that there are some close similarities between the characteristics of speech and behavior of 3-1/2 year-old normal children and those of so-called autistic children. (2) To make diagnosis of autism at this stage of development, it should be necessary to discover specific symptoms which are characteristic of autism and furthermore seldom occur among normal children at the age of 3-1/2. (3) The questionnaire has many limitations for identifying the characteristic symptoms of autism. Therefore, it should be emphasized that the interviews of children and their mothers are absolutely necessary in some cases. (From CDA, 1972, *46* (3-4), Abstract No. 610).

66. Ornitz, E.M., & Ritvo, E.R. (1976). The syndrome of autism: A critical review. *American Journal of Psychiatry*, *133* (6), 609-621.

Reviewed are the clincial features and behavioral characteristics of autism: differential diagnosis of the syndrome; clincial, neurophysiological, and biochemical research on autism; and its medical management and treatment. Among conclusions are that autism is a behaviorally defined, specific syndrome with symptoms expressive of an underlying neuropathological process affecting developmental rate; and that almost all patients manifest severe symptomatology throughout their lives. (From ECEA, 1978, 9 (4), Abstract No. 09 3347).

67. Ornitz, E.M., et al. (1977). The early development of autistic children. Journal of Autism & Childhood Schizophrenia, 7 (3), 207-229.

A sample of 74 young autistic children was selected and defined by direct observation of specific behaviors and clinical assessment of the presence or absence of associated pathological conditions. Retrospective developmental data on these children and 38 age matched normal children were gathered by means of a written inventory completed by the parents when the children were relatively young (mean age less than 4 years). The autistic children were reported to have had significant delays in development of motor abilities, speech, communication, comprehension, and, to a lesser extent, perception during their first and second years. (From ECEA, 1978, 10 (2), Abstract No. 10 1571).

68. Prior, M. & Macmillan, M.B. (1973). Maintenance of sameness in children with Kanner's syndrome. Journal of Autism & Childhood Schizophrenia, 3 (2), 154-167.

Examined was sameness behavior (an obsessive avoidance of any change) as a primary symptom of early infantile autism in a group of 32 psychotic children, 29 boys and 3 girls ranging in age from 3 to 11 years. The group included autistic children diagnosed on the basis of a Rimland's Check List E-2. The desire for maintenance of sameness was found to be present to a marked degree in the behavior of all autistic children. The intensity of various forms of such behavior varied considerably within the group, but 10 characteristic manifestations such as insisting that furniture remain in the same place were found to discriminate between autistic and non-autistic children. The manifestations of sameness behavior may be related to the level of cognitive development in the child. (From ECEA, 1974, 6 (1), Abstract No. 06 0436).

69. Prior, M. (1975). Kanner's syndrome or early-onset psychosis: A taxonomic analysis of 142 cases. Journal of Autism & Childhood Schizophrenia, 5 (1), 71-80.

A study of the case histories of 142 psychotic children (3-13 years) was conducted to assess the validity of classifying Kanner's syndrome (early infantile autism) as a distinct entity in childhood psychosis. Numerical taxonomy was used with the Rimland Diagnostic Check List to classify Ss into either Kanner's syndrome or non-Kanner's syndrome, and a comparison was made between this classsification and a classification using random classes as starting points. Results indicated that separating out Kanner's syndrome cases proved less valid than classifying psychotic children into two groups; one containing Kanner's syndrome plus other early onset, nonrelating psychotic Ss; and the other containing Ss with later onset and more varied symptoms. Particular attributes (such as abnormal behavior in early infancy and indifference or resistance to human contact) were found to differentiate between the two classes of childhood psychosis. (From ECEA, 1976, 7 (4), Abstract No. 07 3147).

70. Prior, M., Boutlton, D., Gajzago, C. & Perry, D. (1976). The classification of childhood psychoses by numerical taxonomy. Journal of Child Psychology and Psychiatry, 16, 321-330.

On the basis of case history data supplied by the parents on the Rimland diagnostic checklist, 162 psychotic children were grouped into 2 classes. Class 1 included children with early onset of the psychosis who showed numerous withdrawal and aloneness symptoms and impaired communication; class 2 included Ss with later onset whose symptoms were more heterogeneous. The 2 classes differed on 29 of the 67 attributes. (From CDA, 1978, 52 (1-2), Abstract No. 445).

71. Rimland, B. (1972). Comment on Ward's "Early infantile autism". Psychological Bulletin, 77 (1), 52-53.

A number of points of disagreement are raised with A.J. Ward's article on early infantile autism (see LLBA IV/3, p. 1407). In particular, objections are presented regarding the looseness of the use of the term "autism", the presentation of Leo Kanner's criteria, and the assumption of psychogenic causation. Recent studies of the biology of autism are briefly cited. (From LLBA, 1972, 6 (1), Abstract No. 7203015).

72. Rimland, B. (1968). On the objective diagnosis of infantile autism. Acta Paedopsychiatrica, 35 (4-8), 146-160.

Rimland suggests that the liberal use of the term autism tends to cloud the uniqueness of early infantile autism. Presents the new finding that the syndrome changes markedly at age 5 1/2. Autism is hypothesized to be a cognitive dysfunction resulting from homozygous vulnerability, which also relates to the ability to focus attention and ignore distractions. (From PA, 1969, 43 (1), Abstract No. 4238).

73. Ritvo, E.R. & Freeman, B.J. (1978). The National Society for Autistic Children's definition of the syndrome of autism. Journal of the American Academy of Child Psychiatry, 17 (4), 565-575.

The article sets forth an overview of the needs for and potenial uses of a behaviorally based definition of autism. Appended is the definition of the syndrome by the National Society for Autistic Children which covers essential features, associated features, impairment, age of onset etiology, incidence and sex ratio, complications, differential diagnosis, predisposing factors, family factors, and operational criteria. (From ECEA, 1979, 11 (1), Abstract No. 110879).

74. Ritvo, E.R., & Freeman, B.J. (1977). National Society for Autistic Children: Definition of the Syndrome of Autism. Journal of Pediatric Psychology, 2 (4), 146-148.

The syndrome of autism is defined and symptoms and behaviors characterizing the syndrome are described. Identified are such aspects as essential and associated features, impairment, age of onset, etiology, incidence and sex ratio, complications, differential diagnosis, predisposing and family factors, and operational criteria. (From ECEA, 1979, 11, Abstract No. 11 0879).

75. Rutter, M. & Lockyer, L. (1967). Study of infantile psychosis: I. Description of sample. British Journal of Psychiatry, 113 (2), 1198.

76. Rutter, M. (1970). Autism: Concepts and consequences. Special Education, 59 (2), 20-24.

The diagnosis, educational needs, factors in prognosis, and concepts of autism are discussed. The consequences of autism described are language handicaps, abnormalities in social relationships, hyperactivity, anxiety, ritualistic behavior, mental subnormality, and the ill effects on the family. (From ECEA, 1971, 2 (4), Abstract No. 501 282).

77. Rutter, M. (1978). Diagnosis and definition of childhood autism. Journal of Autism & Childhood Schizophrenia, 8 (2), 139-161.

The author reviews the history of the definition of autism, cites confusion over varying sets of diagnostic criteria, and reviews research on proposed behavioral grouping. Research is presented on the following issues: specificity of symptomatology; intellectual functioning; age of onset; neurological disorder; the refinement of clinical criteria for symptomatology (including impaired social relationships, language and prelanguage skill, and insistence on sameness); the validity of the autistic syndrome and the differentiation of autism from mental retardation, schizophrenia, neurosis, and developmental language disorders. (From ECEA, 1979, 11 (1), Abstract No. 110791).

78. Rutter, M. (1972). Childhood schizophrenia reconsidered. Journal of Autism and childhood Schizophrenia, 2 (4), 315-337.

Examined were research data on the symptomology and etiology of three classes of psychiatric disorder in children: autism, schizophrenia, and disintegrative psychosis. The author pointed out drawbacks of an etiological classification of childhood psychiatric disorders, and recommended a multi-axial approach to classification which specifies the clinical psychiatric syndrome, the intellectual level, any associated or etiological biological factors, and any associated or etiological psychosocial factors. It was suggested that subdivisions of the clinical psychiatric axis should differentiate among schizophrenia, disintegrative psychosis, infantile autism, and other psychiatric disorders. Studies were cited to show that schizophrenia results from an interaction between certain genetically determined characteristics, psychosocial precipitants, and, in some cases, brain damage during the period of development. Characteristics of disintegrative psychosis were found to be that it follows a period of apparently normal development and consists in a decline in language comprehension and intelligence, loss of social skills, impairment of interpersonal relationships, loss of interest in objects, and development of stereotypes and mannerisms. Failure of social development, deviant and delayed language development, and various ritualistic activities were reported to be the cardinal features of childhood autism. (From ECEA, 1973, 5 (3), Abstract No. 05 1324).

79. Sahlamm, L. (1969). Autism or aphasia? Developmental Medicine and Child Neurology, 11 (4), 443-448.

In cases of severe childhood autism an exact differential diagnosis is essential. Out of 60 children justly labelled autistic by the investigating hospitals and could not communicate by speech, 16 were actually suffering from severe executive aphasia which was found to be of a secondary reactive nature. This group improved greatly in their all-round personality development as soon as their underlying aphasia was treated. Though their speech and understanding did not progress fast, their behavior changed completely and their personal inter-relationship quickly became near to normal. The remaining 44 pupils with childhood autism were not given any kind of speech therapy because their refusal to talk seemed to be of a genuine autistic non-communicating nature. There was never any discrepancy between linguistic efforts and general ability to make contact. As the therapeutic approaches to these groups are entirely different, it is important to exclude those children whose underlying condition is aphasia. (From LLBA, 1970, 4 (1), Abstract No. D00079).

80. Schumann, W. (1966). Zur problematik des kindlichen autismus und der psychologischen nosologie. (On the problems of children's autism and psycholgoical nosology). Praxis der Kinderpsychologie und Kinderpsychiatrie, 15 (5), 168-175.

Presents additional data on a case of early autism. Hypothesis of etiology is proposed, differentiating between autism, neurosis and schizophrenia. Suggest autism is the result of a process which presupposes innate plasticity (probably connected with sensitivity and intelligence), early obstacles and hardships in an intensely caring environment, and more opportunities for identification with objects than with people. (From PA, 1966, 40 (2), Abstract No. 12531).

81. Silbermann, I. (1957). Two types of preoedipal character disorders. International Journal of Psycho-Analysis 38, 350-358.

Groups preoedipal disorders into two classes: 1) those with autistic, and 2) those with symbiotic tendencies. Both groups of children have not attained a sufficiently adequate ego nucleus, at birth, to cope successfully with stimulation. Individuals with preoedipal character disorders can develop into mature adults under proper guidance whereas infantile psychotics remain disturbed throughout life because their egos are constitutionally damaged and cannot be repaired through environmental tools. (From PA, 1959, 33, Abstract No. 4244).

82. Siverts, B.E., Jensen, L.L., Martinsen, H., & Sundet, J.M.

(1982). Differences in use of the diagnostic category "Early infantile autism". Acta Paedopsychiatrica, 48, 123-132.

The present study investigated usage of term "early infantile autism." Sixty-three case descriptions were selected in the Anglo-Saxon literature from 11 different authors. The authors represented widely different theoretical orientations. Sixty categories were needed to account for the contents of the case descriptions. (From CDA, 57 (1-2), Abstract No. 773).

83. Snijders-Oomen, A.W. (1977). Early symptoms of autism. (Dutch). Nederlands Tijdschrift voor de Psychologie en haar Grensgebieden, 32 (5), 299-306.

Discusses the symptoms of infantile autism that could differentiate afflicted children from other nonspeaking children. Infantile autism is often initially diagnosed as an indication of deafness and/or slow intellectual development. Symptoms of 10 autistic Ss studies included: a serious lack of social contacts; were irritable when approached by other children; did not develop eye contact or understandable language/speech communication with others; and voiced only meaningless combinations of vowels and consonants. Although they often disregarded loud noises, soft and distant sounds frequently elicited a reaction-making noise reaction unpredictable. (From PA, 1979, 61 (1), Abstract No. 3791).

84. Snijders-Oomen, N. (1979). Early assessment of autism. B.C. Journal of Special Education, 3 (2), 153-157.

Problems with the diagnosis of autism in young children with hearing impairment are pointed out and data on nine autistic children (1 to 4 years old) are presented and compared with the general behavior of nonspeaking children. Considered are such areas as autistic aloneness, absence of speech or other language communication, vocalizing, hearing loss, motor development, and abnormal responses to sensory quality. (From ECER, 1980, 12 (2), Abstract No. 12 1528).

85. Spreat, S., Roszkowski, M., Isett, R., & Alderfer, R. (1981). Emotional disturbances in mental retardation: An investigation of differential diagnosis. Journal of Autism and Developmental Disorders, 10, 361-367.

Analyses indicated that the autism classification was distinguishable from psychosis, schizophrenia, and severe emotional disturbance in terms of degree of retardation and adaptive behavior. The primary distinguishing feature was the autistic group's low level of language development.

(From CDA, 1981, 55 (1-2), Abstract No. 452).

86. Stephenson, P. (1976). What is an autistic child? Canada's Mental Health, 24 (4), 5-7.

Six common assumptions about autism which may be misleading are examined, including that autism is a specific entity; that it can be distinguished from mental retardation; that autistic children have basically normal intelligence but are untestable; that parental influences are contributory; that early stress factors in the environment are important; and that autistic children can recover if treated appropriately. (From ECER, 1980, 12 (2), Abstract No. 12 1104).

87. Stern, E. & Schachter, M. (1953). Zum problem des fruhkindlichen autismus. (On the problem of infantile autism). Prax. Kinderpsycholo. Kinderpsychiat., 2 (5-6), 113-119.

Raises the question of whether infantile autism is a form of early schizophrenia or an independent clinical syndrome. The authors present 4 childhood cases and agree with Kanner's views that infantile autism is a specific clincial syndrome which need not terminate in adult schizophrenic disease. (From PA, 1955, 29, Abstract No. 7564).

88. Sullivan, R.C. (1979). The politics of definitions: How does autism get included in the Developmental Disabilities Act. Journal of Autism and Developmental Disorders, 9 (2), 221-231.

The author addresses the definitional aspect of including autism in the Developmental Disabilities Act (P.L. 94-103). The developments that led up to the law are reviewed, and the role of the National Society for Autistic Children regarding the law is considered. (From ECER, 1980, 12 (1), Abstract No. 120150).

89. Takahashi, A. (1961). On psychotic symtoms (especially the autistic tendency) of mentally retarded children. Japanese Journal of Psychiatry, 1, 50-57.

Presents 4 case studies of retarded children with autistic tendencies. This tendency (derived from Kanner's autism) is though to have special significance from the dynamic and interpersonal point of view. The author feels that one subgroup of mental retardation-the autistic type-has to be distinguished, although it is not necessarily related to schizophrenia. The modes through which retarded children express autistic tendencies-mechanism and process- are not singular. (From PA, 1961, 35, Abstract No. 5188).

90. Tanguay, P.E. (1973). A pediatrician's guide to the recognition and initial management of early infantile autism. Pediatrics, 51 (5), 903-910.

Intended for pediatricians, the article presents the clinical characteristics, the pathophysiology, and current views regarding the diagnosis and management of infantile autism. Though organic factors are suggested to play a primary role in the genesis of the syndrome, early intervention aimed at maximizing social and cognitive skills is thought to benefit autistic children. Clinical characteristics such as nonexistent or noncommunicative speech and incidence statistics are given. The differential diagnosis of infantile autism from mental retardation, childhood schizophrenia, and other disorders is described. A multidisciplinary team approach utilizing child psychiatrists, psychologists, social workers, and teachers is recommended in evaluating and managing the autistic child. Parents are seen to require professional counseling in adjusting to their child's condition and can then help the child learn and function socially. Also noted are drug therapy, the need for special schooling, and an improving prognosis. (From ECEA, 1973, 5 (3), Abstract No. 05 1811).

91. vanEyck, M. (1974). Le problem de l'autisme et du diagnostic precoce de la deficience auditive (French). The problem of autism and premature diagnosis of deafness. Acta Otorhino-Laryngologica Belgica, 28 (1), 34-36.

(Report presented at the Congress of the Belgian Society of Oto-Rhino-Laryngology, December, 1972). Autism or another profound psychological disturbance may result in diagnosis of deafness in young children. Such disturbed children may have perfect hearing and yet not react at all to sounds. In fact, while it is rare for organically deaf children to be totally deaf, some psychotic children do not react at all to sound. Psychotic disturbances can be related to deafness; therefore, it is also important that children diagnosed as deaf be examined by a neuropsychiatrist so that any autistic tendencies can be discovered. (From LLBA, 1976, 10 (2), Abstract No. 7604563).

92. van Krevelen, D.A. (1973). Autismus infantum. Acta Paedopsychiatrica, 39 (8-10), 197-276.

Presents the title of the 13th International Congress of Pediatrics held in Vienna, in 1971: "Autistic Disturbances of affective contact". This title was chosen to represent the connection between the clinical picture and character deviation. (From PA, 1973, 50 (2), Abstract No. 9314).

93. van Krevelen, D. A. (1954). Quelques remargues sur l'usage abusif du diagnostic d'autisme. (Reflections on the abuse of the diagnosis of autism). Acta Neurol. Belg., 54, 207-212.

Differentiates between schizophrenic autism and non-logical thinking in the normal individaul. Autism is the term used for the former. Presents a case of so-called infantile autism and the diagnosis is rejected in favor of encephalopathy. The author reviews similar cases and suggests that the diagnosis of autism be rarely used and then only by exclusion. (From PA, 1955, 29, Abstract No. 7964).

94. van Krevelen, E.A. (1958). Zur problematik des autismus. (Concerning the problem of autism). Prax Kinderpsycholo. Kinderpsychiat., 7, 87-93.

Reviews the literature concerning Kanner's infantile autism and compares the various points of view. The author presents 3 hypotheses concerning the diagnosis of autism: 1)normal intelligence although he is unable to use it because of the disturbance; 2) disturbance of the affective life, resulting in difficulty in forming interpersonal relationships (this disturbance is basically "curable"); 3) the consequences of emotional neglect can be handled by providing a warm and loving mother-substitute (nurse), who will minister to the child's physical and emotional needs at all times. (From PA, 1959, 33, Abstract No. 8715).

95. van Krevelen, D.A. (1952). Early infantile autism. Z. Kinderpsychiat., 19, 91-97.

Kanner labels early autism schizophrenia, however, the author finds not a regression of emotional and intellectual development but rather a retardation of this development. He feels that until catamnestic studies have been published, it might be better to leave it unclassified or classify it among the oligophrenias. (From PA, 1953, 27, Abstract No. 5551).

96. van Krevelen, D. A., & Kuipers, C. (1962). The psychopathology of autistic psychopathy. Acta Paedopsychiat., 29 (1), 22-31.

The authors find Asperger's observations sound on the basis of Bleuler's terms of "autistic psychopathy" (inability to make contacts or react to the world). Asperger's observations included the following: they are often only children, speech develops slowly, they demonstrate original intelligence, develop their own methods, are unable to achieve empathy and lack intuition. Autistic psychopathy is suggested to be constitutionally rooted because of the likeness of the father to the above characteristics. (From PA, 1963, 37, Abstract No. 1816).

97. van Krevelen, D.A. (1960). Early infantile autism and autistic psychopathy. Journal of Autism and Childhood Schizophrenia, 1 (1), 82-86.

The author's state that a typical syndrome exists which may occur within the framework of very different cerebral affections: oligophrenia, postencepalitic dementia and childhood schizophrenia. The possiblity of a causal disturbance in the mother-child relationship seems to be out the question. (From PA, 1961, 35, Abstract No. 6939).

98. van Krevelen, D.A. (1971). Early infantile autism and autistic psychopathy. Journal of Autism and Childhood Schizophrenia, 1 (1), 82-86.

Early infantile autism and autistic psychopathy were first reported within the span of one year (1943-1944). While the former (Kanner's syndrome) has become the widely known focus of intensive investigation, the later (Asperger's syndrome) did not receive the attention it deserves. Often the two conditons mistakenly have been thought to be identical. An attempt is made: (1) to assign to autistic psychopathy a definite place in psychiatric nosology and (2) to delineate sharply the differences between the essential characteristics of it and of early infantile autism. The author, the first European child pyschiatrist to publish a case of early infantile autism, reports briefly a case of the occurence of Kanner's and Asperger's syndrome in one each of two members of the same family. (From LLBA, 1971, 5 (3), Abstract No. EO 3781).

99. van Kreveln, D.A. (1973). Problems of differential diagnosis between mental retardation and autismus infantum. Act Paedopsychiatrica, 89 (8/9/10), 199-203.

The intelligence level of autistic children does not surpass that of mentally retarded children. The question arises as to how it is possible to differentiate both conditions. A valuable differential diagnostic criterion is given by the E's sucessive impressions. Considering the patient at first glance as an intelligent child, he is, after further observations, inclined to diagnose the child as an imbecile. Systematic investigations by means of standardized tests convince him that the intelligence level is that of a moron. Autismus Infantum, however, must be differentiated from feeble-mindedness because of its being a syndrome which may be caused by different factors. (From LLBA, 1973, 33, Abstract No. 8937).

100. Wale, D. (1978). Differential Diagnosis in the Treatment of autism. Special Education in Canada, 52 (4), 7-9.

The author suggests that there are identifiable differences in treatment approaches to four categories of autistic children: nonverbal, verbal, autistic-like and not autistic. His experiences in breaking the autistic child's isolation are recounted, including play; physical contact games; and imitation, matching, sequencing, and memory activities. Treatment approaches to speech, language, self stimulation, and self abuse are considered. (From ECEA, 1979, 11, Abstract No. 11 1474).

101. Walter, B. (1958). Over het kinderlikjk autisme, in het bijzonder bij doofstommen. (On childhood autism, particulary in deaf-and-mute children). Tijdschr. Opvoedk., 3, 224-251.

The author presents observations of 5-10-year-old deaf-and-mute children. He concludes that it is the social maladaption and autistic lack of affective contact that handicaps normal development in most. (From PA, 1959, 33, Abstract No. 8937).

102. Webster, C.D. (1980). Gorky's "Nilushka": Autism case report? Journal of Autism and Developmental Disorders, 10 (2), 227-229.

The author feels that M. Gorky's (1921, 1964) description of Nilushka resembles more recent scientific accounts of autism. He presents an unusual perspective on autism by comparing people with the autistic boy. He suggests reasons for people's attraction to these children. (From PA, 1980, 64 (2), Abstract No. 12686).

103. Weinger, O. (1973). An example of misuse and abuse of diagnostic labels. Involvement, 6 (1), 12-13.

A case study of a 15 year old boy shows that the original diagnosis of autism was not accepted by the parents, who sought aid from many sources, received guidance from the cubmaster and convinced teachers to try techniques used at home to educate the boy. It is reported that the boy is presently in a 5 year high school arts and science program. Caution is urged in the diagnosis and placement of emotionally disturbed children. (From ECEA, 1974, *6* (1), Abstract No. 06 0269).

104. Wing, J.K., O'Connor, N., and Lotter, V. (1967). Autistic conditions in early childhood: A survey in Middlesex. *British Med. J.*, *3* (5562), 389-392.

A survey of children aged 8, 9, and 10 resident in the former county of Middlesex on 1 January 1964 showed that 4.5 per 10,000 had "autistic conditions of early childhood". This means that there are about twice as many autistic children in the country as there are blind children. There was a raised male-female ratio but no special birth order. Autistic children were more likely to have suffered from complications during pregnancy and delivery than their siblings, and one-half had marked delay in motor milestones. It was confirmed that the parents of autistic children (particularly those in the "nuclear group") were likely to be above average in educational attainment, occupational level, and intelligence. There was no evidence for a genetic or clinical relationship between early childhood autism and schizophrenia. Clinical and educational services still leave much to be desired. (From LLBA, 1968, *2*, p. 272).

105. Wing, L. (1981). Asperger's syndrome: A clinical account. *Psychological Medicine*, *11* (1), 115-129.

Asperger's syndrome is described in terms of the clinical features, course, etiology, epidemiology, differential diagnosis, and management. The author discusses classification and gives reasons for including Asperger's syndrome, along with early childhood autism, in a larger group of conditions that have the impairment of development of social interaction, communication, and imagination in common. (From PA, 1981, *66* (2), Abstract No. 10537).

106. Wing, L. (1971). Multiple impairments in early childhood autism. *Journal of Autism and Childhood Schizophrenia*, *1* (3), 256-266.

Language, perceptual, motor, and behavioral abnormalities are compared in autistic, receptive aphasic, executive aphasic, partially blind and deaf, Down's syndrome, and normal children. Similarities and differences between the language of receptive aphasic and autistic children are considered in detail. Results show that language function in general, rather than just speech, are disturbed in autism. The difficulty of explaining the whole syndrome on the basis of any single abnormality is illustrated. An alternative hypothesis is postulated that a combination of language, perceptual, motor, and autonomic impairments underlies autistic behavior. Such a combination could have a single or multiple etiology. Isolated fragments of the full clinical picture frequently occur, either alone or in combination with different syndromes. Emphasis is placed on the need for detailed and systematic observation of autistic children's behavior. (From LLBA, 1972, 6 (1), Abstract No. 7203009).

107. Wing, L. (1975). Approche clinque et therapeutique des psychoses autistique precoces de l'enfant (Fr.). Clinical and therapeutic approach to early autistic psychosis in children. Revue de Neuropsychiatrie infantile et d'Hygiene Mentale de l'Enfance, 23 (12), 803-812.

The early autistic syndrome of childhood has been defined by L. Kanner (See "Autistic Disturbances of Affective Contact" Nerv. Child 1943, 2, 217). The clinical characteristics of the syndrome are described, especially the disturbances of speech and communication. The central problem is probably due to an organic disorder of cerebral function, and consists of a lack of development of internal language, as indicated by the absence of imaginative games; the problems of affectivity & behavior are secondary consequences. The central problem is usually associated with generalized mental retardation. Therapy consists in aiding the children to compensate for their most serious infirmities, in teaching them to take care of their basic needs (eating, dressing, washing), and allowing them to make the most of their life. The family is the best means of aiding him, although trained therapists are essential. Autism nevertheless remains a syndrome with no known cure. Therapeutic methods should be evaluated by independent workers and not by the therapists themselves. (From LLBA, 1976, 10 (2), Abstract No. 76 04601).

108. Wing, L. (1969). The handicaps of autistic children; A comparative study. Journal of Child Psychology & Psychiatry 10, 1-40.

The schedule concerning the development of behavior characteristic of autistic children was completed by parents of autistic, receptive aphasic, executive aphasic, and partially blind/partially deaf children, plus normal children and children with Down's syndrome as controls. The comparison showed that autistic children are multiply handicapped, combining problems of comprehension and use of speech, and right-left, up-down, back-front disorientation similar to those found in the congenital aphasic syndromes, with abnormalities in the use of vision, difficulty in understanding gestures, abnormal bodily movements, and preference for the proximal senses as in congenitally partially blind/deaf children. (From CDA, 1971, 45, Abstract No. 313).

109. Wing, L. (1981). Language, social, and cognitive impairments in autism and severe mental retardation. Journal of Autism and Developmental Disorders, 11, 31-44.

An epidemological study of children with impairment of social interaction, communication, and imagination is described. It is hypothesized that the socially impaired lack abilities to produce and monitor preverbal sounds, explore the environment, and recognize other human beings. (From CDA, 1982, 56, Abstract No. 640).

110. Yahraes, H. (1978). New light on autism and other puzzling disorders of childhood. National Institute of Mental Health, Rockville MD.

The pamphlet discusses several puzzling disorders of childhood, including autism, atypical personality development (childhood psychosis), psychosocial dwarfism, and Tourette's syndrome. Psychosocial dwarfism is said to be characterized by a marked reduction in physical development and by immaturity in behavior, while Tourette's syndrome involves chronic, multiple tics that spread and come to include larger involuntary body movements. The detection of developmental disabilities in children is briefly reviewed, along with general suggestions for their intervention. (From ECEA, 1979, 11 (3), Abstract No. 11 3539).

111. Yamagami, M. (1971). Characteristics of emotional behavior of autistic children: Clarification of the term "autistic". Japanese Journal of Child Psychiatry, 15 (3), 132-144.

An attempt is made to more clearly define emotional reactions and behavior patterns symptomatic of affective contact disorders in autistic children, based on clincial observations. The author describes 20 cases to illustrate such symptoms as flattening of affect, extreme negativism, absence of response to physical injury, emotional fluctuation without external stimulus, repetitious behavior, exteme interest in mechanical objects and a disinterest in humans, extremely agitated response when patterned behavior is interrupted, senseless smiling, crying but strong resitance to sympathy, and sudden change of intention before achieving goals. Hypersensitivity and a precarious balance between the child's inner and outer worlds is demonstrated by the child's extreme self-centeredness and negativism exhibited by the autistic child and such patterned behavior as rigid maintenance in the order of external objects. The child attempts to enforce order in the world through ritualization because of the overwhelming effect it has on his limited perceptions and capabilities. (From PA, 1979, 62 (2), Abstract No. 13851).

112. Hoshino, Y. et al. (1980). An epidemiological study of autistic children in Fukushima-ken. (Japn). *Japanese Journal of Child & Adolescent Psychiatry*, *21* (2), 111-128.

A comprehensive survey of the prevalence of autism with the examination of regional distribution and the collection of demographic data of children under 18 years of age and under medical care for autism. Diagnosis was carried out by the use of the Kanner criteria of 1944 and the identified children were also interviewed and examined. The survey found 142 children with autism. The male:female ratio was 9:1 with most autistic children falling into the younger and older age groups. The data further revealed two other significant findings; 1)high percentage (60%) of pre- and peri-natal complications in the autistic group, and 2)the parents of autistic children also had higher education than the control group on average. (From PA, 1981, *65* (2), Abstract No. 12915).

113. Lotter, V. (1966). Epidemiology of autistic conditions in young children: I Prevalence. *Social Psychiatry*, *1* (3), 124-137.

This study screened the entire 8-10 yr-old population of the Country of Middlesex and, based on behavioral criteria, identified children with autistic behavior. Fifty-four childen reportedly displayed some autistic behavior. From this group, 2 "autistic" subgroups and 1 "nonautistic" subgroup were formed using a 24 behavioral item scale. The prevelence was found to be 4.5/ 10,000 and 32 of the 54 cases were analyzed. (From PA, 1967, *41* (1), Abstract No. 7561).

114. Prior, M.R., Gajzago, C., & Knox, D.T. (1976). An epidemiological study of autistic and psychotic children in four eastern states of Australia. *Australian & New Zealand Journal of Psychiatry*, *10* (2), 173-184.

An etiological and descriptive study of 146 autistic and psychotic children from four eastern states of Australia. The study is a detailed analysis of significant factors in childhood psychosis, although the authors' choice of diagnosis and methodology make the findings less relevent in North America. A significant finding of the study is the discovery of "organic indicators" in most of the classic cases of autism. The authors therefore suggest the inclusion of a comprehensive neurological assessment as part of the diagnostic effort. (From PA, 1977, *57* (1), Abstract 6019).

115. Treffert, D.A. (1970). Epidemiology of infantile autism. Archives of General Psychiatry, 22 (5), 431-438.

A total of 280 unduplicated cases of childhood schizophrenia and infantile autism in children age 12 and under were identified in a five-year survey of all of Wisconsin's community mental health clinics; state, county, and university hospitals; Children's Treatment Center; and Children's Diagnostic Center. The sample was subdivided into three groups: classic infantile autism (A), psychosis of childhood with later onset, (B), and psychosis complicated by demonstrable organicity (C). The prevalence of childhood schizophrenia and infantile autism was 3.1 cases per 10,000 children. Of these cases, 25% were group A, 57% were group B, and 18% group C. This is a prevalence rate 1/100 that of mental deficiency and 1/10 that of adult schizophrenia. The three groups were similar in very high male:female ratios, relatively low familial incidence of major mental illness, and a low incidence of prenatal and perinatal complications. Group A differed from the other groups in terms of parental education level, infrequency of firstborn males, and older age of mothers. The differences in the groups seem less compelling than the similarities and do not conclusively point toward consideration of early infantile autism as an entity apart from childhood schizophrenia. This sample was compared to the epidemiologic parameters reported in studies elsewhere in the literature. Clues worthy of further study emerge. (From LLBA, 1970, 4 (2), Abstract No. D02575).

116. Wakabayshi, O., Kaneko, T., & Tanaka, T. (1974). An epidemiological report on the conditions of autistic children at the psychiatric clinic of Nagoya University Hospital. (Japn). Japanese Journal of Child Psychiatry, 15 (2), 69-83.

An overview of the prevalence of childhood autism in Japan. The authors provide a picture of epidemiology and relevent statistics. They familiarize the reader with differential diagnosis, the perception of significant clinical features, and therapeutic approaches in Japan. The study details the autism-related work of the Nagoya University Hospital in 1971. Of the child-patient population 15.4% were diagnosed as autistic and reasons for this high percentage are offered. A few statistics are given about age-range of children (mostly in the 2-6 years group), the presence of retarded speech development and mental retardation in a large percentage of cases. (From PA, 1980, 63 (1), Abstract No. 3435).

117. Bumbera, R.G. (1973). Infantile autism: The puzzle. Journal of Psychiatric Nursing and Mental Health Services, 11 (6), 26-28.

A review of theories concerned with the etiology of infantile autism reveals two opposing schools of thought led by organicists such as B. Rimland and environmentalists such as B. Bettleheim. It can be concluded that some relationship to brain damage exists, that genetics plays a role, and that environment cannot be discounted. There is a need for research on questions such as why foundling children who suffer from maternal deprivation do not become autistic. Until etiological factors are clearly known, the symptoms of autism should be treated by medical, educational, and any other effective methods. (From ECEA, 1974, 6 (2), Abstract No. 060963).

118. Drotar, D. (1978). A critique of the double-blind theory of infantile autism. Journal of the American Academy of Child Psychiatry, 17 (1), 46-48.

Presented is a critique of P.D. King's double-bind theory of infantile autism. King's theory requires greater clarity and specificity to scientific validation, and that research failed to control for observation bias and did not provide adequate evidence. (From ECEA, 1979, 10 (4), Abstract No. 104036).

119. Faretra, G. (1979). Lauretta Bender on autism: A review. Child Psychiatry and Human Development, 10 (2), 118-129.

The paper reviews and analyzes the development of theories of L. Bender (a pioneer in the field of child psychiatry) on autism, especially as it relates to childhood schizophrenia. Bender believes that the condition is one of the manifestations of schizophrenia occurring in earliest childhood. This review traces, through her writings and through personal contact, the development and elaboration of this view, and discusses influences on her work of P. Schilder, A. Gesell, and others. (From ECER, 1980, 12 (2), Abstract No. 122127).

120. Fraknoi, J. & Ruttenberg, B.A. (1971). Formulation of the dynamic economic factors underlying infantile autism. Journal of the American Academy of Child Psychiatry, 10 (4), 713-738.

An attempt to reconstruct the dynamic mechanisms accounting for the clinical picture of infantile autism. The prevailing theoretical framework is presented as well as clinical material from the Developmental Center for Autistic Children. The following are discussed: (1) etiological considerations in the literature on infantile autism; (2) family background and evaluation of children in a current study;(3) congenital and environmental factors in the etiology of autism; (4) comments on significant aspects of the mothering function; (5) theoretical assumptions regarding the genesis of autism in comparison with normal development and marasmus; (6) normal developmental states vs. pathological processes gradually leading up to full-blown autism; (7) considerations regarding the "hallucinatory experience" of the autistic child; (8) defensive functioning in the autistic child; and (9) theoretical assumptions regarding various therapeutic approaches. The hypothesis developed is of a gradual (phase by phase) pathological process culminating in the clinical syndrome of autism. The basis for the conclusion is a nine year study of 25 autistic children and their mothers. A basic assumption is that of the autistic child's mother was unable to offer adequate protection from overwhelming stimuli, gratification, and a sense of security to her infant. It is suggested that research in the service of early detection and prevention is of utmost importance in this field. (From LLBA, 1972, 6 (1), Abstract No. 7203008).

121. Hall, E. (1974). Ethology's warning: A conversation with Nobel prize winner Niko Tinbergen. Psychology Today, 7 (10), 65-66, 69-71, 73-76, 78, & 80.

This conversation with Nobel Prize winner Niko Tinbergen of Oxford University points out that the rise of childhood autism in industrial countries may be an early warning signal that society has overstretched man's capabilities to adjust. Tinbergen demonstrates how he draws upon his background in natural observation for his present work with autistic children and speaks of the war between psychology and ethology that has reached the truce stage. He also discusses aggression from the standpoint of an ethologist. (From LLBA, 1974, 8 (2), Abstract No. 7404476).

122. Knobloch, H. & Pasaminick, B. (1975). Some etiologic and prognostic factors in early infantile autism and psychosis. Pediatrics, 55 (2), 182-191.

Sociocultural factors, antecedent complications, motor and intellectual deficits and associated disorders were evaluated in 50 autistic infants and children and in 50 children (median age 18 months) with organic central nervous system dysfunction. Both groups were found to have a high incidence of low birthweight, prenatal and neonatal complications, seizure disorders and a variety of diseases associated with developmental defects. Autistic Ss exhibited organic brain disease (100%) and mental deficiency (75%). A followup study of 40 Ss over a 5-year period demonstrated that 75% of the Ss had established social responses appropriate to their functioning level, and that the degree of mental deficiency was as great or greater than it was initially. (From ECEA, 1975, *7* (2), Abstract No. 071611).

123. Kupernick, K.N. (1972). Detskii autizm: Veduschchee poraxhenie (Russ.). Infantile autism: Primary disorders. *Zhurnal nevropatologii i psikhiatrii imeni*, *72* (10), 1529-1535.

After studying the different etiopathogenetic models of infantile autism (psychodynamic on one hand, and organic on the other), consideration must be given to the relationship between the primary disorders and disturbed cognition, following Rutter's concept. A fuller understanding of this condition may be achieved from the approach set forth by Goldstein. (From LLBA, 1973, *7* (1), Abstract No. 7301472).

124. Kysar, J. (1968/1969). The two camps in child psychiatry: A report from a psychiatrist-father of an autistic and retarded child. *American Journal of Psychiatry*, *125* (1), 103-109.

125. L'Abate, L. (1972). Early infantile autism: A reply to Ward. *Psychological Bulletin*, *77* (1), 49-51).

The conclusions of A. J. Ward concerning the environmental etiology of early infantile autism are questioned on the basis of an incomplete and selected coverage of the literature. More recent evidence and different viewpoints suggest a different, or at least transactional, etiology. Different treatment approaches, also not covered in Ward's review, may lead toward a more clear-cut differentiation of the syndrome. (From LLBA, 1972, *6* (1), Abstract No. 7203014).

126. Lobascher, M.E., Kingerlee, P.E., & Gubbay, S.S. (1970). Childhood autism: An investigation of aetiological factors in twenty-five cases. *British Journal of Psychiatry*, *117* (54), 525-529.

Twenty-five autistic children were investigated and compared, as were their parents, with a matched control group. Mothers of patients had a significantly longer gestation period and more complications of labour at every stage than mothers of the control group. Fifty-six per cent of the subjects showed unequivocal evidence and a further 28 per cent probable evidence of organic cerebral nervous system disease on the basis of combined neurological and electroencepthalographic assessment. No subject scored above the high grade defective level in IQ testing and the patients were slow to develop speech when compared to controls. Both parents of patients gave higher scores on the psychiatric section of the CMI and appeared to have less divergent personalities than parents of the control group. Alcoholism, psychiatric illness, and mental retardation occurred significantly more often in families of autistic children. (From LLBA, 1971, 5 (2), Abstract No. E01760).

127. Moore, D.J. (1972). A response to R.A. Webb's comments. Psychological Review, 79 (3), 280.

Having agreed with all the major tenets of the theory, Webb proceeds to argue its conclusions by citing truisms from normal development as evidence. He ignores the fact that early infantile autism is not a normal state. Webb is correct in his observation that early infantile autism does not exist in degrees, but he is incorrect for reasons other than those he states. Furthermore, Webb rejects the theory's rejection of Rimland's early brain damage hypothesis on grounds that the brain is more susceptible to damage when it is developing rapidly. His restatement of this commonly accepted fact lends nothing to the discussion. The theory demands flexibility of thought, rigidity of logic, and a renunciation of many time-worn and erroneous beliefs regarding autism.(From LLBA, 1972, 6 (2), Abstract No. 7206643).

128. Moore, D.J., & Shiek, D.A. (1971). Toward a theory of early infantile autism. Psychological Review, 78 (5), 451-456.

It is hypothesized that in early infantile autism, fetuses with an inherited high potential for intellectual superiority are developmentally ready for imprinting with human behaviors much before birth. Instead of being imprinted postnatally at critical periods in cerebral development as are most children, these neurologically advanced fetuses are imprinted on the restricted uterine environment. Such atypical imprinting leads to the syndrome of early infantile autism. Suggestions for research are offered. (From LLBA, 1972, 6 (1), Abstract No. 7201278).

129. Nakayama, O. (1978). About the etiology of early childhood autism: IRM dysfunction theory. (Japn). Japanese Journal of Child Psychiatry, 19 (4), 219-226.

The author rejects the hypothesis that autism is a basic disorder of cognition and language. Nakayama feels that early childhood autism is caused by the dysfunction of innate releasing mechanisms (IRMs) that result from biological deficiencies. The failure to develop social relationships, and deficits in cognition and language is assumed to be caused by the dysfunction of the IRMs simultaneously and interdependently during the early infant period. (From PA, 1980, 64 (2), Abstract No. 12650).

130. Ney, P.G. (1974). Discussion. Canadian Psychiatric Association Journal/La Revue de l'Association des Psychiatres du Canada, 19 (2), 133-135.

Dr. Rimland's article on infantile autism is discussed. The fact that autism is therein considered a distinct entity in the realm of childhood mental illness is valid. The science of diagnosing the illness, however, is not in a state of confusion as is the contention of the report; 80% inter-observer agreement is the present status of the diagnostic situation. The statement that etiology awaits nosology is unconditionally agreed with, since many studies on autism do not describe the diagnostic criteria. Certain questions are raised about the presentation; the actual distribution of the symptoms and the possibility that some children diagnosed autistic are really suffering from forms of aphasia. Some questionable methods of arriving at a taxonomy of diagnosis are suggested. (From LLBA, 1974, 8 (2), Abstract No. 7405953).

131. Ney, P.G. (1979). A psychopathogenesis of autism. Child Psychiatry and Human Development, 9 (4), 195-205.

The paper reviews the research and hypothesizes that autistic children are not neurophysiologically abnormal but are children with hearing hyperactivity, born into an environment that cannot adapt to them. The author describes characteristics of the autistic child, such as distorted communication, negativism, twirling, and unusual sensitivity. It is explained that human sounds are not soothing but frightening and noises hurt so much that the child withdraws. The author explains that as time progresses the autistic child is deprived of alternate forms of stimulation because the parents have withdrawn, and with an information starved brain, irreversible retardation results. (From ECEA, 1979, 11 (3), Abstract No. 113803).

132. Nicholas, A.M. (1977). Models of treatment for the autistic child: An evaluation of intervention efficacy. Exceptional Child, 24 (1), 3-11.

Reviewed is research on the relationship between the treatment of autistic children and diagnostic and etiological variables. It is concluded that the effectiveness of intervention programs can be evaluatd along four parameters: a delineation of presenting behaviors in an educational context; an analysis of what, behaviorally, was maintaining these behaviors; generalizability of results and reproducibility of procedures; and community maintenance of the child through educational and parental intervention. It is noted that behaviorally oriented programs meet all four parameters. (From ECEA, 1978, 10 (3), Abstract No. 102611).

133. Pharr, R.R. (1976). Childhood psychoses and infantile autism: An analysis of variables related to nosology and etiology. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Among conclusions of a study to identify constructs that might be used to explain the intercorrelations of variables on the Rimland Diagnostic Checklist (a test for childhood psychosis and infantile autism) was that the drug Deanol, removal of milk products, operant conditioning, patterning training, and cortisone had the highest probability of improving the autistic child's behavior when compared to similar treatments. (From ECEA, 1978, 10 (3), Abstract No. 103177).

134. Phillips, E.L. (1957). Contributions to a learning theory account of childhood autism. Journal of Psychology, 43,117-124.

The author attempts to tie in autism with learning and conflict theory principles by presenting a number of article reviews and data on autistic children in comparison with normal and less disturbed children. He finds a predominance of first born males but does not feel that the problems are biological or maturational in origin except that the child cannot be autistic before he becomes old enough to engage in abstractions. (From PA, 1959, 33, Abstract No. 8709).

135. Roy, M.A. (1974, May). A formula for early infantile autism. A tutorial presented at the Rocky Mountain Psychological Association Meeting, Denver, Colorado.

Offered is an explanation for the development of early infantile autism as defined by L. Kanner, which incorporates the behavior of the child, the behavior of the parent, and a critical time development period. Writings of Kanner on the characteristics of autistic children, parental characteristics, and etiology are reviewed. The formula suggested includes three necessary and interacting components: (1) a child who is unable, due to physical limitations,to benefit from unusual amounts of maternal stimulation and/or who is deficient in proximity-producing or sustaining behaviors; (2) caretakers who tend to minimize contact with the child and (3) an insufficient amount of interpersonal contact during the first year of life. The formula is supported through a review of research on early experiences and intra-human development and attachment and identification in children. Identified as secondary (acquired by associative learning principles) characteristics of autistic children are excellent rote memories and echolalia. (From ECEA, 1979, 10 (4), Abstract No. 10 3663).

136. Rutter, M., & Bartak, L. (1971). Causes of infantile autism: Some considerations from recent research. Journal of Autism and childhood Schizophrenia, 1 (1), 20-32.

Experimental, clinical, and longitudinal studies of infantile autism are reviewed and the evidence with respect to different views on the causation of the condition is considered. Several independent investigations have shown the presence of severe, extensive defect in language comprehension, in control funtions associated with language, and with the processing of symbolic or sequenced information. Circumstantial evidence suggests that this cognitive defect constitutes the primary handicap in autism, the social and behavioral abnormalities arising as secondary consequences. It remains uncertain whether the cognitive/language defect is a sufficient cause for autism or whether some interaction with particular personality attributes or family environment is necessary. The basic cause of the cognitive defect is unknown, although the high rate of fits in intellectually retarded autistic children suggests the presence of some kind of organic brain disorder. Among intelligent autistic children, there is less evidence for structural brain pathology; it remains possible that in some cases autism may arise on the basis of some maturational disorder or genetically determined condition. (From LLBA, 1971, 5 (3), Abstract No. E03777).

137. Rutter, M. (1974). The development of infantile autism. Psychological Medicine, 4 (2), 147-163.

Rutter traces the history of infantile autism since 1943. He notes that schizophrenia, mental retardation and psychogenic factors were once explanations for this behavioral syndrome. Today the cognitive deficit theory is widely upheld even though a biological basis for such a deficit remains unknown. It has not been determined whether autism is a single disease entity, a collection of symptoms rooted in a single disease entity, a collection of symptoms rooted in a mixed group of biological and psychosocial causes, or a syndrome of biological impairment. However, the author notes that despite the unresolved areas, an increased understanding of the disorder in recent years has had an important influence on treatment. (From PA, 1974, 52 (2), Abstract 12636).

138. Sage, W. (1974). Autism's child. Human Behavior, 3 (2), 16-26.

Discussed are controversial issues in the etiology and treatment of infantile autism. Cases of severe self abuse are described. The theory of Bruno Bettelheim which lays responsibility for the condition on a rejecting mother is considered and thought to be without experimental validation. Noted is the possibility that the autistic has inherited an excessive ability to concentrate. Views of the National Society for Autistic Children led by Bernard Rimland are explained to include an organic etiology and the need for finding a biological cure. The work of Ivar Lovaas in modifying the self abusive and self stimulating behaviors of autistic children is described. Early identification (under 30 months of age) and intensive training with behavior modification techniques are recommended for the autistic child. (From ECEA, 1974, 6 (2), Abstract No. 061271).

139. Salk, L. (1968). On the prevention of schizophrenia. Diseases of the Nervous System, 29 (5), 11-15.

A review of the literature and constitutional vs. environmental explanations of the origin of autism. The author cites a predisposition to the illness and early environmental conditions as possible causes of irreversible structural changes. Characteristics of the autistic child's responses are compared to animal responses. Prevention is stressed and the case of premature babies, raised in incubators for 1-2 months, is presented in support of the hypothesis that various problems do stem from sensory deprivation rather than organic factors. Imprinting and maternal responses in animals are explained to support this idea. (From PA, 1968, 42 (2), Abstract No. 50798).

140. Sarvis, M.A., & Garcia, B. (1961). Etiological variables in autism. Psychiatry, 24, 307-317.

Eighty autistic children were studied and hypotheses formulated regarding etiology. Three basic stages postulated in the development of autism were: the autistic reaction in the child where the child rejects the mother; the mother counterrejects or withdraws from the child; the chronic autistic stage where there is a consolidation of paranoid attitudes and there appears restitutional behavior such as complusive, magical, and autonomous efforts to reconstitute the world. The etiological variables are delineated under four categories: family psychodynamics specifically promoting autism; family psychdynamics enabling autism to occur; circumstances external to family control; assaults on the child's physiological organism. Case histories are presented and treatment planning discussed in relation to the various categories of etiological variables. (From CDA, 1962, 36 (5-6), Abstract No. 692).

141. Schain, R.J., & Yannet, H. (1960). Infantile autism. Journal of Pediatrics, 57, 560-567.

(1) The literature on early infantile autism has been reviewed, and the considerable differences of opinion as to the nature of this syndrome have been discussed. Our criteria for diagnosis have been set forth as primarily based on the development of a severe personality disorder during the first two years of life as characterized by a failute to relate to people. (2) The clinical data from 50 cases of infantile autism have been analyzed. The normal physical findings, good family backgrounds, normal perinatal histories, and particular onset of symptomatology are in general agreement with previous descriptions of this disorder. (3) 42% of the group had histories of having had seizures to warrant the secondary diagnosis of "convulsive disorder" at the time of admission. This association has not been previously reported. (4) The possibility is raised that the limbic system is the site of a cerebral abnormality accounting for these children's susceptibility to seizures and is related to their severe affect disorder. Features of the limbic system are discussed that make it a likely locus of cerebral dysfunction in children with autistic disorders. (From CDA, 1961, 35 (5-6), Abstract No. 726).

142. Schopler, E. (1974). The stress of autism as ethology. Journal of Autism and Childhood Schizophrenia, 4 (3), 193-196.

Presented is a brief critique of Dr. N. Tinbergen's Nobel Prize acceptance speech which dealt with ethology (the application of animal behavior research) and early childhood autism. Described are issues of diagnosis, causation, and treatment. It is explained that criteria have been developed for diagnosing autistic children (including brain damage and retardation), that specific causes are still unknown but research points to brain abnormality, and that treatment methods need to be evolved on the basis of research and clinical experience. (From ECEA, 1975, 7 (2), Abstract No. 071354).

143. Tinbergen, N. (1974). Ethology and stress diseases. Science, 185 (4145), 20-27.

N. Tinbergen, 1973 winner of the Nobel prize for medicine, offers two examples to illustrate that strict methods of observation employed by ethologists can contribute to the treatment of human stress diseases. For his first example, the author discusses his observations of ways in which autistic behavior mirrors certain behaviors of normal children (such as a child's keeping its distance from a strange person or situation, and avoidance of eye contact) and concludes that therapists should assume that autistic children have been traumatized rather than genetically or organically damaged. Ethological approaches to early childhood autism are said to indicate that many suffer primarily from a form of anxiety neurosis, that environmental factors are the causative agents in autism, and that therapies aiming at reduction of anxiety and restarting of proper socialization are more effective than speech therapy per se or enforced social interaction. The second example proferred concerns the work of F.M. Alexander and his followers which procedes on the assumption that teaching the body musculature to function more correctly can improve such diverse conditions as blood pressure, breathing, depth of sleep, mental alertness and gastrointestinal disorders. The author argues generally that the study of animals, especially observation, can make useful contributions to human biology in the fields of somatic malfunctioning, behavioral disturbances, and psychosocial stress. (From ECEA, 1975, 6 (4), Abstract No. 062653).

144. Wakabayashi, S. (1979). On infantile autism with a retrogressive shift. (Japn). Japanese Journal of Child Psychiatry, 15 (4), 215-230.

A literature review concerning a sudden retrogressive shift that occurs in cases of infantile autism. Several case histories are presented along with data from 116 cases studied in a psychiatric clinic. Of these 116 cases, 76.9% exhibited this retrogressive shift between 1 and 3 years of age and before the age of 5 in all cases but one. High clinical value is placed on the retrogressive shift as a clue for early detection and diagnosis of infantile autism. The disappearances of phrase-level speech is a key symptom, however-apathy, nonresponsiveness, withdrawal, compulsive arranging of toys, and escaping outdoors are also common symptoms. Prognosis is generally poor although some developmental improvements were reported. Significant factors included the degree of regression, attention and concern of the parents and the ability to participate in group education. Environmental factors are seen as possibly causing retrogression however their importance is not understood. (From PA, 1979, 61 (1), Abstract No. 3803).

145. Weber, D. (1966). Zur atiologie autistischer syndrome des kindesalters. (The etiology of the autistic syndrome in childhood). Praxis der Kinderpsychologie und kinderpsychiatrie, 15 (1), 12-18.

A ten year study revealed that disturbances of primarily polyetiological and organic origin were the basic causes of early autistic symptoms. This study was based on data from 92 children and adolescents. (From PA, 1966, 40 (1), Abstract No. 5722).

146. Webb, R.A. (1972). A comment on D.J. Moore and D. A. Shiek's "Toward a theory of early infantile autism". Psychological Review, 79 (3), 278-279).

D.J. Moore and D.A. Shiek's theory concerning the origins of infantile autism is examined and found implausible. The theory is seen as based on the misuse or misunderstanding of two key concepts -imprinting and intelligence. Their notion of imprinting is mechanical and does not take into account the necessary environmental interaction which is characteristic of social development in man and other mammals. More serious is Moore and Shiek's belief that intellectual potential would be indicative of developmental precocity. Extensive empirical study indicates that there is no relation between the behavior of infants at birth and later IQ. It is suggested that all theories of autism based on the presumed precocity of children be abandoned as unproductive. (From LLBA, 1972, 6 (2), Abstract No. 7206642).

147. Williams, S. & Harper, J. (1974). A study of etiological factors at critical periods of development in autistic children. International Journal of Mental Health, 3 (1), 90-99.

Williams analyzes data on 97 autistic children in New South Wales whose parents have been under various forms of treatment. He notes that: 1)these children tended to come from an upper socioeconomic class; 2) etiological explanations were multiple and thought to cause sensory deprivation; 3) the degree of intellectual deficiencies appeared to correlate with the length of psychosis. A follow-up analysis demonstrated that treatment did not have a significant effect on educatonal adjustment. (From PA, 1976, *55* (1), Abstract No. 2487).

148. Wing, L. (1979). The current status of childhood autism. *Psychological Medicine*, *9* (1), 9-12.

The author notes that, although some authorities now consider autism to be the result of a deficit in the cognitive skills underlying the development of social communication, symbolic language, symbolic communication and complex verbal reasoning, L. Kanner's (1943) view that impairment of affective contact is a major aspect of childhood autism, is still accepted. (From PA, 1980, *64* (1), Abstract No. 5839).

149. Wing, L., & Ricks, D.M. (1976). The aetiology of childhood autism: A criticism of the Tinbergers' ethological theory. *Psychological Medicine*, *6* (4), 533-543.

A summary of L. Kanner's (1943) observations of early infantile autism and the (1972) ethological theory of the etiology of this syndrome as presented by E.A. Tinberger and N. Tinberger. After a critical analysis the author suggests that the Tinbergers lack supportive evidence and are not precise enough in their definition of "autism" and "Kanner's Syndrome". (From PA, 1977, *58* (1), Abstract No. 5552).

150. Wood, D. (1981). Theoretical explanations of autism. *Special Education in Canada*, *55* (4), 26-27, 29-32.

Theories on the etiology of autism are reviewed, and corresponding historical conditions are discussed. Addressed are the following types of theories and investigations: psychogenic, biogenic, biochemical, neurological, pharmacological, behavioral, and cognitive deficit theories. (From ECEA, 1982, *14* (2), Abstract No. 141330).

151. Zappella, M. (1975). The ethological theory of infantile autism. (Ital). *Archivio di Psicologia Neurologica e Psichiatria*, *36* (2), 119-143.

Presents supportive data for N. Tinberger's theory of ethological origin of childhood autism as obtained from its application in the childrens homes and schools. Progressive enlargement of the relational space of the child was applied. Fundamental to this treatment was the therapists background and creativity in arranging new and stimulating situations. (From PA, 1976, *55* (2), Abstract No. 12654).

152. Akerly, M.S. (1975). The invulnerable parent. Journal of Autism & Childhood Schizophrenia, 5 (3), 275-281.

Uses E.J. Anthony's (1974) description of the invulnerable child of schizophrenic parents as the basis for discussing the invulnerable parent of an autistic child. The following factors are identified and discussed as essential to invulnerability: (a) genetic factors, (b) stress, and (c) recognition, understanding, and acceptance of the nature of the stress. According to Anthony, the most beneficial means of decreasing vulnerability is the establishment of trustful, supportive relationships, based on deliberate nonuse of reproachful and guilt-provoking techniques, relationships geared to reality and rationality, communications that are single-minded and unequivocal, and feelings that correlate directly with experience and are not incongruous with it. (From LLBA, 1977, 57 (1), Abstract No. 1295).

153. Akerley, M.S., Dewey, M.A., & Everard, M.P. (1974). Parents speak. Journal of Autism and Childhood Schizophrenia, 4 (4), 347-356.

A panel of six parents and professionals, "convening" by letter over a period of a year, decided to compare their impressions of approximately 50 mildly autistic adolescents they have known. The airmail method, although time consuming, provoked thoughtful discussion. It began with the recognition that the young people had many characteristics in common, in spite of their unique personalities and different aptitudes. Some of the older boys had persisted for years in the development of skills which interested them, neglecting or avoiding others which they found difficult or irrelevant to their goals. On the surface, it appeared that these young people had grown in widely different directions. When communication problems and social adjustments were examined, the panel agreed that these near-normal autistic individuals typically use non-reciprocal speech, with such recurrent problems as failing to listen, interpreting words too literally, and making irrelevant comments. Socially they are apprehensive, having experienced unpleasant consequences of errors in judgment. The overlapping problems of this group of predominately male near-normal autistic individuals should not be dismissed as coincidence. Further study of the needs of all mildly autistic adolescents is urgently recommended. (From LLBA, 1975, 9 (1), Abstract No. 7504195).

154. Allen, J. et al. (1971). Intellectuality in parents of

psychotic, subnormal, and normal children. Journal of Autism & Childhood Schizophrenia, 1 (3), 311-326.

A study of the intellectual functioning in parents of 33 autistic children, 30 mentally retarded brain damaged children and 33 matched normals. The DeMyer-Churchill diagnostic criteria was used to diagnose the Ss. Measurement of parents intellectuality was based on intellectual interests, preference for people with ideational orientations, academic attitudes and reading material as well as IQ scores. Fewer parents of autistic children emphasized intellectual pursuits and academic success than the control parents. However, there was no difference in attitudes or desired personality characteristics. The autistic children's fathers were significantly higher in IQ than the brain-damaged children's fathers, but mothers IQ's were found to be similar to one another. Parents age at time of child's birth was older in the autistic and brain-damaged groups than for the control group. (From PA, 1972, 47 (2), Abstract No. 10897).

155. Ando,H., & Tsuda, K. (1975). Intrafamilial incidence of autism, cerebral palsy, and mongolism. Journal of Autism and Childhood Schizophrenia, 5 (3), 267-274.

A study involving 557 Japanese children (mean age 4 years) diagnosed as autistic, cerebral palsied, or trisomy-21 mongoloids was conducted to determine differences in the children's family position. Each S was evaluated by a clinical team; and information on maternal age, sex ratio, and birth order was obtained and compared to data on normal children. Results showed that the maternal age distribution of both the autism and cerebral palsy groups did not differ significantly from the normal population, while the mongoloid group differed significantly (more mothers over the age of 35 years) from the other two groups as well as the general population; the males were significantly more prevelant in the autism and cerebral palsy groups as compared to normals; and that there were significantly more only and last-born children in the cerebral palsy and mongoloid groups as compared to the control group. (From ECEA, 1976, 7 (4), Abstract No. 07 3873.

156. Anthony, E.J. (1975). Comment: The invulnerable parent. Journal of Autism & Childhood Schizophrenia, 5 (3), 281-282.

The author argues in support for M.S. Ackerley's comparison of the invulnerable child of schizophrenic parents and parents of the autistic or otherwise handicapped child. Discusses several factors including the following: a) "good" environments providing more than adequate core may carry certain hazards; b) "well" children from the invulnerable parent or child should not be made to feel guilty. (From PA, 1977, 57, Abstract No. 1297).

157. Bene, E. (1958). A Rorschach investigation into the mothers of autistic children. British Journal of Medical Psychology, 31, 226-227.

Mothers of children with primary autism were assessed by Rorschach performance and found to have less capacity for establishing social and emotional relationship than mothers of children with secondary autism. Frequency of morbid fantasy was the same for both groups. (From PA, 1960, 34, Abstract No. 1340).

158. Bettison, S. (1974). Simple behavior modification techniques as aids in teaching parents of autistic child-rearing principle. Australian Journal of Mental Retardation, 3 (3), 64-69.

A mother was trained to give approval and speech models to her 7-year-old severely disturbed autistic daughter. The training method involved E giving praise, as well as feedback from the records of training sessions contingent on the mother's performance. Approval was contingent on the child's cooperative behavior and speech following the mother's model. All target behavior increased, and this increase was maintained eighteen months later. The double behavior modification programme appears to be an effective technique to change a dysfunctional relationship, and works quickly and simply as a training device for teaching child-rearing principles. (From ECEA, 1975, 7 (2), Abstract No. 07 1191).

159. Bisno, A.R. (1979). Maternal language to verbal and nonverbal autistic children. University Microfilms International. P.O. Box 1346, Ann Arbor MI 48106.

The study examined the nonverbal and verbal communication behaviors of 15 verbal and 15 nonverbal autistic children and their mothers. Results indicated no significant differences between groups in kinds and frequencies of activities in which mother-child dyads participated, patterns of initiation of activities, and attentional responses. Significant differences were found between the groups in aspects of conversational exchanges and in use of strategies to promote and maintain such exchanges. (From ECER, 1980, 12 (4), Abstract No. 12 5185).

160. Bristol, M.M. (1979). Maternal coping with autistic children: Adequacy of interpersonal support and effects of child's characteristics. *University Microfilms International*. P.O. Box 1346, 1346, Ann Arbor MI. 48106.

Among findings of the study in which mothers of 40 autistic children (4 to 19 years old) were interviewed, were that older autistic children were more stressful than younger autistic children even when the effects of mother's age, general family stress, and degree of child dependency were controlled; the best of 12 predictors of family coping problems were specific characteristics of the children and their environments; and the most successful mothers had more adequate interpersonal support networks. (From ECEA, 1980, *12* (3), Abstract No. 12 3844).

161. Byassee, J.E., Murrell, S. A. (1975). Interaction patterns in families of autistic, disturbed, and normal children. *American Journal of Orthopsychiatry*, *45* (3), 473-478.

Eighteen families of autistic, emotionally disturbed, and normal children (mean age 11 years) were compared for differences in family interaction patterns. The Ferreira and Winter Unrevealed Differences Task (a situation-choice questionnaire) was administered first to each S individually and then to each family as a group; and from this task, four measures (spontaneous agreement, choice-fulfillment, decision-making time, and index of normality) of family interaction were obtained. Results showed no differences between families with autistic and families with normal children; families with disturbed children were found to have less agreement between father and mother than did families with autistic or normal children. (From ECEA, 1976, *7* (4), Abstract No. 07 3715).

162. Cantwell, D., Baker L., & Rutter, M. (1979). Families of autistic and dysphasic children. I.Families life and interaction pattern. *Archives of General Psychiatry*, *36*, 682-687.

163. Cantwell, D.P. et al. (1977). Families of autistic and dysphasic children. II. Mother's speech to the children. *Journal of Autism and Childhood Schizophrenia*, *7* (4), 313-327.

To test various hypotheses about deviance in the communication of mothers to their autistic children, the language of mothers of 13 autistic boys (mean age 9 years) was compared to the language of mothers of 13 boys with developmental receptive dysphasia (mean age 9 -1/2 years). The language samples came from hour-long taped interactions between the mothers and their children in their homes. Aspects of maternal communication that were examined include the amount of language used, the frequency of usage of different types of utterances and the syntactic complexity of utterances. Results indicated no differences between the two groups of mothers in level of language usage, patterns of funtional interaction, or overall clarity of communcication; thus, no support was provided for the suggestion that autism is due wholly or in part to deviant patterns of mother-child communication. (From ECEA, 1978, 10 (3), Abstract No. 10 2835).

164. Clancy, H. (1970). A group family holiday: An innovation in the therapeutic management of the autistic child. Slow Learning Child, 17(3), 149-162.

Three family holiday workshop projects which are thought to be unique have been described. In each instance the participants wer 11 families, each having an autistic child, a professional consultant, and voluntary helpers. It would seem from follow-up investigations that the family holiday workshop served the purpose for which it was originally designed, namely, to bring together families of autistic children in an effort to dispel the feeling of isolation of their bewildering handicapped child; to meet those needs which cannot appropriately be handled in a clinic--such as providing holiday for all members of the family; and to make available advice and assistance about their child's needs and practical ways of management. The project is evaluated in the light of its relevance in the overall management of any handicapped child. (From ECEA, 1971, 3 (2), Abstract No. 03 14170).

165. Clancy, H. & McBride, G. (1969). The autistic process and its treatment. Journal of Child Psychology & Psychiatry & Allied Disciplines, 10 (4), 233-244.

Presents a theoretical model of autism as a developmental process operating within a social system-the family, based on observations of 53 autistic children. Observations show that Ss can form affiliations and suggest that the initial defect operates to interfere with the process by which bonds form. This is contrary to Kanner's hypothesis that the autistic child is born with a congenital inability to form bonds. It is felt that the subject and his family both contribute to the abnormal affiliative process, so that the S is incorporated into the family system in such a way that the autistic process is reinforced and promoted. Predisposing and initiating factors are suggested to be involved in establishing the autistic process which then effectively isolates the S on his own terms. The authors outline an appropriate treatment schedule that is directed towards the family rather than the child. It aims at developing a system of family bonds that includes the S and provides the framework for normal socialization. Of the 53 Ss, 12 were successfully treated. Other theories of causation and treatment of infantile autism are discussed in relation to this theory and treatment. (From PA, 1970, 44 (2), Abstract No. 14940).

166. Creak, M. (1972). The parents of autistic children. Developmental Medicine & Child Neurology, 14 (5), 659-661.

The author presents a celebration speech on the 10th annual anniversary of the United Kingdom National Society for Autistic Children. Stresses that autism is a condition that can be adapted to and possibly overcome, however, it is also an illness with an unknown cause and cannot be expected to completely disappear in response to an appropriate treatment. (From PA, 1973, 50 (1), Abstract No. 3189).

167. Culbertson, F. M. (1977). The search for help of parents of autistic children or beware of professional "Groupthink". Journal of Clinical Child Psychology, 6 (3), 63-65.

Reported are results of interviews with parents of ten autistic children concerning their awareness of the child's problem, reported behavioral characteristics of the child, search for help, recommendations and parents' evaluation of professional counsel. Findings are said to suggest the need for professionals be to open to others' theoretical positions. (From ECEA, 1978, 10 (3), Abstract No. 10 2785).

168. DeMyer, M.K., Pontus, W., Norton, J., Barton, S., Allen, J., & Steeled, R. (1972). Parental practices and innate activity in normal, autistic, and brain-damaged infants. Journal of Autism & Childhood Schizophrenia, 2 (1), 49-66.

Infant care practices and innate activity were compared in a study of 96 families representing 33 autistic and early schizophrenic, 33 matched normal, and 30 subnormal children. Data from objectively rated interviews indicated that parents of psychotic and normal children were alike in infant care practices, total stimulation scores, and factor analytically derived scores. Parents of subnormals were the least stimulating and coldest, providing fewer contacts and less physical freedom to the infants than the other parents. Normal infants were more active, but autistic and subnormal did not differ on any infant rating item. Infant factor scores showed that autistic and subnormal infants were most alike in the alertness factor, both below normal, all differing significantly. Results are discussed and interpreted to substantiate criticism of theories that attribute autism to parental or organic-environmental causation during infancy. (From LLBA, 1972, *6* (2), Abstract No. 7204809).

169. Despert, J. L. (1951). Some considerations relating to the genesis of autistic behavior in children. *American Journal of Orthopsychiatry*, *21*, 335-350.

In an effort to clarify the relation of maternal attitudes to the development of autistic behavior in young children, the author presents material from a single case. Descriptions of the mother included the following terms: compulsive, perfectionist, narcissistic, immature, frigid, emotionally detached, frightened by bodily contact, lacking in consciousness, and only capable of functioning at a satisfactory level intellectually. The mother of the child who develops autistic behavior is said to be an extreme case where the mother really does not want the child. (From PA, 1952, *26*, Abstract No. 2272).

170. Drotar, D. (1978). Parent-child interaction and infantile autism. *Journal of Pediatric Psychology*, *2* (4), 167-177.

Research concerning the interactions of parents with their autistic children is critically reviewed. It is explained that previous studies have been limited by failure to utilize direct observations and by significant methodological problems and that prospective studies appear to have practical and theoretical relevance. Suggestions for future research and the implications for treatment are presented. (From ECEA, 1979, *11* (1), Abstract No. 11 0883.

171. Eberhardy, F. (1967). The view from "the couch". *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *8* (3-4), 257-263.

The author does not find any truth in the suggestion that the autistic child's parents wish the child did not exist. Suggest that guidance counselors' help parents by giving them support and helping them understand their child's deviant behavior. (From PA, 1968, *42* (2), Abstract No. 14256).

172. Eisenberg, L. (1956). The fathers of autistic children. *American Journal of Orthopsychiatry*, *26*, 556-566.

An analysis of the behavior of the fathers of autistic children reveals the evidence of serious personality difficulties that markedly impair the fulfillments of a normal paternal role and that seriously influence the pattern of family living in a detrimental way. It suggests a need to reconsider the pat formulation that ascribes to maternal inadequacies alone psychopathology in the schizophrenic child. The observation that the some parents who give rise to autistic progeny rear normal offspring implies the existence of other factors, residing perhaps in the child, that are necessary before psychosis appears. (From CDA, 1958, *32* (5-6), Abstract No. 724).

173. Felicetti, T. (1981). Parents of autistic children: Some notes on a chemical connection. *Milieu Therapy*, *1* (1), 13-16.

To investigate the link between occupational chemical exposure of parents and the birth of autistic children, parents of 20 autistic children, parents of 20 retarded nonautistic children, and parents of 20 normal children were compared. Eight of the 37 known parents (21%) of the autistic children had sustained occupational exposure to chemicals prior to conception as compared to 2.7% of the retardation group and 10% of the normal controls. Among the weaknesses of the study was the small sample. (From ECEA, 1982, *14* (2), Abstract No. 14 1390).

174. Fodor, I.E. (1973). The parent as a therapist. *Mental Health* *57* (2), 16-19.

The author suggests that community health programs incorporate auxilary therapist training courses for parents. This would allow for long term contact and short training sessions with periodic refresher courses. Reviews the case history of a 9 yr-old child. (From PA, 1974, *52* (2), Abstract No. 10685).

175. Frank, S.M., Allen, D.A., Stein, L., & Myers, B. (1976). Linguistic performance in vulnerable and autistic children and their mothers. *The American Journal of Psychiatry*, *133* (8), 909-915.

The language patterns of schizophrenic mothers and their four-year-old children (N=8) were studied and compared with the speech of normal mothers & children (N=11). Thirty-minute sessions were tape-recorded in a naturalistic play setting. Analysis showed that children of schizophrenic mothers showed lags in language development and language distortions less severe than, but in some ways similar to those seen in autistic children. Schizophrenic mothers were more likely to produce more deficient &/or distorted language in interactions with their children. Mothers of autistic children produced language that was equal to or above that of mothers of normal children on most parameters, & adjusted their language to the chronological rather than the linguistic age of the child. (From LLBA, 1982, 16 (4), Abstract No. 8206592).

176. Frank, S. et al. (1980). Family communication patterns in autism. In Michael A. Simpson (Ed.), Psycholinguistics in clinical practice: Languages of illness and hearing (pp. 118-120). New York: Irvington Publisher, Inc.

The communication patterns of eight families with autistic children (all between 2 and 7-1/2 years of age) were examined. Families were videotaped in a 20 minute free play situation, then two 10 to 15 minute segments in which families were asked to complete puzzles and respond to a series of pictures, and a final segment in which only the mother and child interacted during free play. Linguistiic behavior of parents and siblings was analyzed. Interpretations of three of the families' interaction and behavior patterns are given. Parents exhibited four types of adaptive and defensive reaction patterns: withdrawal, denial, overdidactic, and stimulatory. Other major findings included a peer language deficit (no language from the siblings to the autistic child). The hypothesis that adequate language development requires a multifactorial input of biological, linguistic, and psychological factors was supported. (From ECEA, 1982, 14 (2), Abstract No. 14 1331).

177. Gillberg, C. (1980). Maternal age and infantile autism. Journal of Autism & Developmental Disorders, 10, 293-297.

Among 10,000 Swedish children, 20 fulfilled the criteria for infantile autism. There were 15 boys and 5 girls. Eighty-five percent of the mothers were older than average. Mean maternal age in the autistic sample was 30.7 years, compared with 26.0 years in the general population. (From CDA, 1981, 55 (1-2), Abstract No. 11).

178. Goldstein, S.B., & Lanyon, R.L. (1971). Parent-clinicicans in the language training of an autistic child. Journal of Speech and Hearing Disorders, 36 (4), 552-560.

The parents of a 10-year-old autistic boy were trained in using modeling-reinforcement procedures to improve the language skills of their child. They conducted therapy for 125 45-minute sessions and were supervised after every fives sessions. Initially the child used about 100 words, but most of them were intelligible only to his parents. After training, he was able to articulate 83 words acceptably; in addition, he could label pictures of objects and use short phrases.Definite improvements in communicating outside the home. However, his speech does not begin to approximate that of a normal 10-year-old. (From LLBA, 1972, 6 (1), Abstract No. 7201 366)

179. Goodall, K. (1971). Childhood autism-Don't blame the parents. Psychology Today, 5 (4), 8 & 10.

To investigate the accuracy of a picture often drawn by professional investigators of the highly intellectual, cold, compulsive, and unemotional parents of autistic children, the report of Wirt M. Wolff and Larry A. Morris fails to support the picture of the parents that others have drawn. Among the tests that were administered were the Otis I.Q.; the MMPI, a personality measure; and the A-B scale, which is used to determine whether psychotherapists would be more skillful in treating psychotics (A-type therapists) or neurotics (B-type). It was found that the parents' I.Q. scores were not uniformly or exceedingly high, and their personalities showed unremarkable pathological trends. The results of the A-B scale suggest more adjustive than maladaptive parent-child relationships, and would seem to contradict the notion of parental patterns as the cause of the psychosis. While a small sample, they conclude that it is time for professionals to quit depicting parents of autistic children as exceedingly brilliant "emotional refrigerators". (From LLBA, 1971, 5 (4), Abstract No. E05716).

180. Greenfeld, J. (1970). A child called Noah. Life Magazine, 69 (17), 67-72.

A father tells the story of his four-year-old son,, a childhood schizophrenic with autistic tendencies. Excerpts from the father's personal journal illustrate, by notation of daily episodes, observations and feelings, the parents' gradual realization that something was wrong with their son and their frustrating attempts to obtain a diagnosis and a treatment program from pediatricians, psychiatrists, neurologst, and other specialists. Described are the child's nearly non-verbal behavior (having regressed after learning to talk in sentences at the age of two years), his slow physical development, his withdrawal symptoms, and the parents' loss of faith in the ability of organized medicine and public (or private) educational and therapy programs to provide guidance and assistance. As of this writing, the parents have begun megavitamin therapy and are hoping for the establishment of a school to apply UCLA-developed techniques of operant conditioning for childhood schizophrenics. (From ECEA, 1971). 3 (1), Abstract No. 03 0487).

181. Greenfeld, J. (1978). A place for Noah. Psychology Today, 11 (10), 46-48, 92, 94, 96-99.

Based on his bookA Place For Noah, the author describes, in diary form, his experience as the father of a brain damaged, autistic son, now 11 years old. The entries run from December 1972 to January 1976, and include descriptions of the child's interactions and effects on family and teachers as well as on the father. (From ECEA, 1979, 10 (4), Abstract No. 103437).

182. Hackett, L.K. (1975). A journey for Timmy. Bates College Alumnus Bulletin, 7, 2-6.

A mother of a 6-yr-old autistic child describes the characteristics of autism and relates the steps taken to enroll her son in a regular class program. (From ECEA, 1976, 8 (2), Abstract No. 08 1187).

183. Hanley, E.M., et al. (1979). Parental management of a child's self-stimulation behavior through the use of timeout and DRO. Education and Treatment of Children, , 2 (4), 305-310.

Violent hand and arm waving behavior was successfully reduced in a seven year old boy by application of a timeout and differential reinforcement of other behavior procedure applied by parents. The results of this study show that parents, after a relatively short exposure to behavioral principles, can be effective managers of their child's behavior. (From ECEA, 1980, 12 (3), Abstract No. 12 3237).

184. Harris, S. (1976). Advising parents of severely atypical children. Journal of Family Practice, 3 (4), 381-383.

The family physician is discussed as a primary source of continuing guidance for the parents of autistic, schizophrenic, or brain damaged children. Problems must be anticipated in areas like medication, early education, reactions of siblings and strain on parents. To help them cope with the multitude of problems, confronting them and their children, the author suggests that the family physician refer the parents to available resources. Presents case histories where such an approach was taken. (From PA, 1976, 56 (2), Abstract No.

10405).

185. Holroyd, J.B., Brown, N., Wikler, L., & Simmons, J. (1975). Stress in families of institutionalized and noninstitutionalized autistic children. Journal of Community Psychology, 3 (1), 26-31.

Examined two variables: instituationalization and the age of child in relation to parent's reports of personal and family problems (viewed as stress indicators) in their attempts to deal with an autistic child. The study involved parents from 29 families with autistic children. The children's ages ranged from 1-18 with one aged 24. All but one were Caucasian and 78% were male. The parents were interviewed and completed a questionnaire as part of a larger follow-up study. Level of stress for the families was evaluated by combining parent interview responses. Families of institutional and non-institutional children did not differ. However, it was suggested that ratings of stress were higher in families with older children at home. (From PA, 1975, 53 (2), Abstract No. 12340).

186. Howlin, P. et al. (1973). Analyzing mothers' speech to young autistic children: A methodological study. Journal of Abnormal Child Psychology, 1 (4), 317-339.

The development of a technique for analyzing mother's speech to young children involved 14 mothers and their autistic children, 4 to 12 years of age, and seven mothers and their normal preschool children, 2-1/2 to 4 years of age. The need for such a measure arose from two linked studies of autistic children, one comparing autistic children with developmental "dysphasic" children and the other evaluating the results of a home-based approach to treatment. A 17-category system was developed which could encompass almost all the types of speech shown by the mothers of young autistic and normal children and which differentiated between the speech used by different mothers in a way that was meaningfully related to the child's level of language development. The categories proved to be easily applicable and to show good inter-observer reliability. Tape-recordings made during home observations were found to be the best source of speech samples. (From ECEA, 1974, 6 (3), Abstract No. 061747).

187. Jakab, I. (1972). The patient, the mother, the therapist: An interactional triangle in the treatment of the autistic child. Journal of Communication Disorders, 5 (2), 154-182.

The psychotherapy process of an autistic child (from age

3-1/2 to 6) is discussed. Based on the developmental history and the clinical observations during psychotherapy, an attempt is made to present the patterns of communication and interaction as they developed from the original mother-child interaction through the development and changes in the child-therapist communication patterns. These changes were paralleled by changes in the mother-child interaction and in the mother-therapist interaction. The early unpredictable system of mother-child communication consisted of a mixture of aggression and rejection appearing at random. Through the initiation of psychotherapy, this reverberating pathological interaction changed to an interactional triangle between: child-therapist, mother-child, and mother-therapist. Presently, the child uses meaningful nonverbal communication, but does not use vocalization to convey messages. The therapy is still going on. The term of "jargon communication" is proposed to define the global expressive disorder in autism. The distorted language (or lack of it) and other pathological motor manifestations, representing a nonverbal gestural jargon, lead to "jargon communication." (From LLBA, 1973, 7 (1), Abstract No. 7301532).

188. Johnson, M.R., Whitman, T.L., & Barloon-Noble, R. (1978). A home-based program for a preschool behaviorally disturbed child with parents as therapists. Journal of Behavior Therapy and Experimental Psychiatry, 9, 65-90.

The effects of a set of reinforcement procedures upon the "autistic" behaviors of a 4-year-old girl were evaluated. Results indicated that the parents' use of the positive attention and timeout procedures was responsible for a substantial improvement in their daughter's compliance with instructions and a marked decrease in the two inappropriate responses. (From CDA, 1979, 53 (1-2), Abstract No. 380).

189. Kelley, J.B., & Samuels, M. (1977). A new look at childhood autism: School-parent collaboration. Journal of School Health, 47(9), 538-540.

Childhood autism is discussed in terms of the parents' role in the helping process, special problems experienced by families of autistic children, methods schools can develop for work with parents, school personnel, and other professionals share in home-school evaluation and planning of programs. The program at Brentwood Center for Educational Therapy, which serves autistic individuals 3 to 26 years old and involves the development of individual therapy and educational programs for each student through parent-staff conferences, is described. (From ECEA, 1978, 10 (2), Abstract No. 10 1963).

190. King, P.D. (1975). Early infantile autism: relation to schizophrenia. *Journal of the American Academy of Child Psychiatry*, *14*, 666-682.

A retrospective study of 12 cases of early infantile autism showed an extremely significant incidence of double-blind relationships between autistic children and their mothers. Observations suggested that the double-blind relationships were primary and not secondary to any organic deficits in the children. A theory presented childhood schizophrenia as a possible connecting link between early infantile autism and adult schizophrenia. (From CDA, 1976, *50* (5-6), Abstract No. 1251).

191. Koegel, R.L. et al. (1978). Generalization of parent-training results. *Journal of Applied Behavior Analysis*, *11* (1), 95-109.

Two experiments involving four mothers of seven autistic children (4 to 13 years old) were conducted to assess the generalized effects of several different parent/teacher training programs. In Experiment 1 it was found that a brief demonstration of how to teach an autistic child new behaviors was sufficient to teach parents how to teach those children those behaviors. However, generalization to new child target behaviors did not take place. Another parent training program, which did not demonstrate how to teach any one specific child behavior but was based on teaching the use of general behavior modification procedures, was effective in teaching the parents how to teach target behaviors. Experiment II then provided analyses of the individual effects of several components of the generalized training program. The results showed that videotape illustrations of the procedures, without the presence of a master teacher, were sufficient to teach the adults. However, subparts of the videotapes produced highly specific training results, with each component changing corresponding areas of the adults' behaviors. Viewing of the entire package was necessary before the adults were able to improve the autistic children's behavior The study as a whole suggested the importance of obtaining multiple measures of the effects of parent and teacher training programs, including measures of acquisition and generalization of both adult and child behaviors.(From ECEA, 1979, *10* (10),Abstract No.10379).

192. Kolvin, I., Garside, R., & Kidd, J. (1971). Parental personality and attitude and childhood psychoses. *British Journal of Psychiatry*, 403-406.

193. Lapin, C.L., Donnellan-Walsh, A. (1977). Advocacy and research: A parent's perspective. *Journal of Pediatric Psychology*, *2* (4), 191-196.

Parents' views regarding the reduction in public expenditures for research on autism are presented, including parental hesitation about research and researchers, suggestions for developing a "research constituency." areas of research of particular interest to parents, the rights of human subjects, and the implications of parent involvement in accountability. (From ECEA, *11* (1), Abstract No. 110888).

194. Lennox, C., et al. (1977). Cognitive characteristics of parents of autistic children. *Journal of Autism & Childhood Schizophrenia*, *7* (3), 243-261.

The parents of 15 autistic boys (6 to 16 years old) with a nonverbal I.Q. of at least 80 were compared with a matched group of parents of normal boys on the Goldstein-Scheerer Object Sorting Test and the Bannister-Fransella Grid Test of Thought Disorder. It was necessary to control for social class effects as abnormal scores on the thought disorder tests were more frequent in parents of manual social class. It was found that there was a lack of agreement between the two tests of thought disorder, the parents of autistic children showed thought disorder scores closely comparable to those of the parents of normals, and there was no consistent association between thought disorder and anxiety. (From ECEA, 1978, *10* (2), Abstract No. 101573).

195. Levine, M., & Olson, R.P. (1968). Intelligence of parents of autistic children. *Journal of Abnormal Psychology*, *73* (3, Pt. 1). 215-217.

The authors administered a standard vocabulary test of intelligence to the parents of autistic children in an attempt to test Rimland's hypotheses that they are uniformly of extremely high intelligence. They selected three cases who had high autistic to schizophrenic ratios on Rimland's check list. None of the parents were found to be extremely high in intelligence. It is suggested that Rimland's hypothesis is not supported or else his checklist lacks validity as a measure of infantile autism. (From PA, 1968, *42* (2), Abstract No. 12483).

196. Links, P.S. (1980). Minor physical anomalies in childhood

autism. Part II. Their relationship to maternal age. *Journal of Autism & Developmental Disorders*, *10*, 287-292.

There was a positive correlation between minor physical anomalies and maternal age at birth. The significance of the relationship between MPA and maternal age deserves further study. (From CDA,1981, *55* (1-2), Abstract No. 19).

197. Lordi, W.M., & Silverberg, J. (1965). Infantile autism: A family approach. *International Journal of Group Psychotherapy*, *14* (3), 360-365.

The authors report that the symptomatology and behavior pattern of this syndrome relate to the child's inability to "utilize the auxiliary, executive ego functions of the symbiotic partner, the mother, to orient himself in the outside or inner world". Discuss the parents behavior, noting that, mothers tended to vicariously express their feelings of frustration and anxiety through the child and the maternal reaction to the child's behavior range from physical flight to fears that they might destroy the child. Fathers behavior generally exhibited attitudes competitive wih the child for the mother's mother-like qualities. The child's deviant behavior was often explained, by the parents, as having very unrealistic sources, sometimes mystical, or they (psychologically) denied the existence of the problem. (From PA, 1965, *39* (1), Abstract No. 7459).

198. Lowe, L.H. (1966). Families of children with early childhood schizophrenia: Selected demographic information. *Archives of General Psychiatry*, *14* (1), 26-30.

Presents demographic information to illustrate that families of children diagnosed as autistic or symbiotic show many of the same characteristics as those who have children diagnosed as chronic undifferentiated schizophrenics. The parents were better educated and held higher employment positions that parents of otherwise disturbed children. The disturbed nonschizophrenic group had a higher rate of broken homes than the autistic or chronic undifferentiated schizophrenic groups. There was no significant difference in the male-female ratio. (From PA, 1966, *40* (1), Abstract No. 4464).

199. Luiselli, J.K. (1980). Controlling disruptive behaviors of an autistic child: Parent mediated contingency management in the home setting. *Education and Treatment of Children*, *3*, 195-203.

Parents were taught to apply basic behavior modification procedures to control two problem behaviors in their autistic child. (From CDA, 1981, 55 (3-4), Abstract No. 1086).

200. Mahler, M.S., Furer, M. (1972). Child psychosis: A theoretical statement and its implications. Journal of Autism and Childhood Schizophrenia, 2 (3), 213.

The authors discuss implications of a theory of child psychosis which states that the crucial disturbance is the infant's lack or loss of the ability to utilize the mother during the early phases of life as a complement to and organizer of its own maturation. Two syndromes of child psychosis are identified: infantile autism in which there is said to be regression to the autistic phase of earliest infancy in which the mother is not perceived as representative of the outside world; and symbiotic psychosis in which the child regresses to a distorted symbiotic phase due to failures in the separation-individuation process. The authors regard a psychotic child as half an individual whose condition can be treated only through restoration (as completely as possible) of the original symbiotic mother-child dual unity and through subsequent facilitation of a separation-individuation process in the presence of a libidinally available mother. Briefly recounted are experiences with a mother-therapist-child treatment situation in which the first goal is to reestablish a symbiotic union with the mother via the therapist as bridge. (From ECEA, 1973, 5 (1), Abstract No. 050742).

201. Mandel, H.P., Marcus, S.I., Roth, R.M., & Berenbaum, H.L. (1971). Early infantile autism: A pre-ego psychopathology and case report. Psychotherapy: Theory, Research & Practice, 8 (2), 114-119.

Presents the dynamics of autism as being inadequately assessed in the literature and reports that faulty ego development is irrelevant. Suggests that because of personal cirumstances, the parents could not give the child proper attention in the critical first few months of life, when the physical involvement of mothering is crucial. Thus, the child becomes fixated at the earliest level of development and cannot make the transformation from physical to psychic energy, as presented by Freud. The child is viewed as existing in a sensory and emotional vacuum. Therefore, it is suggested that therapy involve intervention to provide sensory experience. A case history is presented to illustrate and discuss this approach. (From PA, 1973, 49 (2), Abstract No. 11439).

202. Marcus, L.M., et al. (1978). Improvement of teaching

effectiveness in parents of autistic children. Journal of the American Academy of Child Psychiatry, 17 (4), 625-639.

In a short term followup study of the Parents-as-Cotherapists model, 10 mothers were rated on their effectiveness in teaching an unfamiliar task to their autistic children (2 to 6 years old). Test-retest comparisons indicated statistically significant positive changes in overall teaching effectiveness as measured by observers ratings of specific skills such as behavior control and use of language, and the child's compliance rate. A negative correlation was found between the age of the child and rated teaching skills. Lower socioeconomic status families tended toward greater improvement. Findings provided support for the intervention model. (From ECEA, 1979, 11 (3), Abstract No. 113628).

203. Moore, B.L., & Bailey, J.S. (1974). Social punishment in the modification of a pre-school child's "autistic-like" behavior with a mother as therapist. Journal of Applied Behavior Analysis, 6 (3), 497-507.

The mother of a three year old girl who showed "autistic-like" behavior was cued via an FM wireless microphone systematically to approve and disapprove of her child's behavior. After baselines were taken on two categories of problem behavior (pre-academic and social behavior), the social contingencies were applied successively to each category. The Pre-Academic task was quickly established in the child when the mother applied these social contingencies. This result was replicated with requests for social interaction. In the final phase, cueing was withdrawn from both situations, and the mother was able to maintain the child's improved behavior. An analysis of the mother's behavior suggested that her increased use of social punishment for inappropriate behavior was the key factor in the child's increasing responsiveness. Follow-up seven months later indicated that the improvements maintained. (From LLBA, 1974, 8 (1), Abstract No. 7401749).

204. McAddo, W.G., & DeMyer, M.K. (1979). Research related to family factors in autism. Journal of Pediatric Psychology, 2 (4), 162-166.

It is reported that recent studies do not support the position that parents of autistic children have such extreme personality characteristics as coldness, obsessiveness, and introversion, and that, in terms of personality characteristics, these parents are similar to parents of other problem children. However, they are likely to be more affluent, and the fathers are more likely to be brighter and better educated. It is thought that the continual stress of dealing with an autistic child may eventually result in personality changes for these parents. The authors maintain that recent studies support the idea of genetic inheritance which may not involve the complete syndrome of autism but only a language-cognitive component. (From ECEA, 1979, 11 (1), Abstract No. 110882).

205. Netley, C., & Lockyer, L. (1978). Methodological problems in the study of parental characteristics. Journal of Autism & Childhood Schizophrenia, 8 (1), 115-117.

The authors respond to the study by C. Lennox et al. which revealed that, on the Grid Test of Though Disorder, parents of autistic children do not differ from control parents. Discusses the difference between the findings of these authors and those of C. Netley et al. (1975). They suggest that Lennox et al. studied unrepresentative cases. A significant difference was found in the fact that 18 of the 30 parents of autistic Ss scored above the ceiling of the Progressive Matrices, while only 1 of the 40 control parents obtained such a score. Although mean parental IQ's were not much different, the difference does suggest that the proportion of exceptionally bright parents was higher in the autistic parent group than in the controls. (From PA, 1979, 61 (2), Abstract No. 13562).

206. Ogdon, D.P., Bass, C.L., & Thomas, E.R. (1968). Parents of autistic children. American Journal of Orthopsychiatry, 38, 653-658.

A group of 22 parents of autistic children were contrasted with a comparable group of parents with normal children by means of the Rorschach test. Significant differences seem to strengthen the position that the parents' personality may influence the development of autism. (From CDA, 1970, 44 (5-6), Abstract No. 998).

207. O'Moore, M. (1978). Living with autism Irish Journal of Psychology, 4 (1), 33-52.

Interviewed the mothers of 25 3-24 year-old Irish autistic children to examine the problems that arise in the rearing of autistic children. Daily management of the autistic child and the effects of the handicapped child on the rest of the family were the general areas of concern. Unlike previous reports, most siblings had adjusted quite well to the problems imposed on their families by the presence of an autistic child. However, had the present siblings been externally assessed, the results may have been different. Depression was common among the mothers but few sought medical help. (From PA, 1980, 64 (2), Abstract No. 8195).

208. Parrish, M.C. (1969). Parents of autistic children: Their common needs and attitudes. Corrective Psychiatry & Journal of Social Therapy, 15 (4), 14-19.

This study examined parents of autistic children for a commonality of attitudes toward childrearing. The EPPS and the Parent Attitude Research Instrument were used and revealed that the greatest need for both parents together was for Deference and Abasement. Although parents appeared to agree in childrearing practices, mothers were characterized as being obsessive, irritable, and self abasing. Deference appeared to be a strong desire in the fathers. (From PA, 1971, 46 (2), Abstract No. 7208).

209. Riehl, J. (1980). The self-conception and role relationships of autistic children: A symbolic interaction perspective. University Microfilms International, P.O. Box 1346, Ann Arbor Mi 48106.

Results of the study of 25 high level functioning autistic children and their normally functioning siblings and parents showed that parents tended to overrate their autistic children; that autistic Ss functioned well in structured situations, less well in semistructured, and not as well in unstructured situations; and that normal Ss socialized into the culture while autistic Ss did not. (From ECEA, 1982, 14 (2), Abstract No. 141829).

210. Ritvo, E.R., Cantwell, D., Johnson, E., Clements, M., Benbrook, F., Slagle, S., Delly, P., & Ritz, M. (1971). Social class factors in autism. Journal of Autism and Childhood Schizophrenia, 1 (3), 297-310.

Social class factors were studied in families of 148 patients hospitalized at the UCLA Neuropsychiatric Institute from 1961 to 1970. Seventy-four patients with the syndrome of perceptual inconstancy and diagnosis of autism were matched according to age, sex, and time of admission with 74 hospitalized for other neuropsychiatric disorders. Statistical comparisons of parental data revealed no significant differences in mean age at time of patient's birth, educational or occupational level, income, social class indexes, or distribution. Certain significant differences were noted in racial and religious compositions, and more mothers of autistic patients were unemployed at the time of their child's hospitalization. These findings, which differ from many reporting a significantly higher social class standing of families of autistic children, are discussed. It is suggested that future surveys of more culturally and socioeconomically heterogeneous populations will confirm that there is no

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significant association between social class factors and autism. (From LLBA, 1972, 6 (1), Abstract No. 7203010).

211. Roth, E.F. (1972). A psychodynamic model of the mother of the autistic child. Smith College Studies in Social Work, 42 (3), 175-202.

Explained is a psychogenic model of autism, and reported are findings on the functioning of 25 mothers of autistic children. Autism is examined in terms of meaning, etiology, and the model which holds that mothers of autistic children are peculiarly vulnerable to stress and chores of motherhood which evoke for all mothers the infantile past and identification with parents. The model is said to advance topographic, genetic, structural, economic, dynamic, and adaptive perspectives; and to account for maternal contribution to a parent child relationship which occurred during a period of regression in the mother. Described are guided interviews with the 25 mothers (also 23 fathers) to seek a description of the child and his functioning, communicative efforts with the child, the relationship within the immediate and extended family, the mother's relationship with her mother, and the family's experience seeking help for the atypical child. Findings are classified on a four point scale of agreement-disagreement with the model and are drawn from interviews, observations, or specialists. Data are given which show clear evidence that in all mothers there was a conscious investment in caretaking, a hidden or muted libidinal attachment to the child, an absence of verbalized anger and aggression toward the child, and little awareness of the child's inability to relate to people. The findings have implications for the treatment of autism through a preventive approach. (From ECEA, 1974, 6 (1), Abstract No. 060585).

212. Samit, C., et al. (1980). The parents group: A therapeutic tool. Social Casework, 61 (4), 215-222.

The article describes a parent education and support group for parents of autistic children (ages 2 to 6) in a psychiatric nursery unit of a hospital. The group involves parents in the treatment process and helps parents cope with their emotions concerning their autistic child. Parents generally go through shock, denial, shame, guilt, anger, and depression before arriving at acceptance of their child. (From ECEA, 1980, 12 (4), Abstract No. 124820).

213. Sanua, V.D. (1981). Cultural changes and psychopathology in children: With special reference to infantile autism. Acta Paedopsychiatrica, 47, 133-142.

Infantile autism seems to be less frequent among the Italians, Chinese, Hispanics, African, and Israeli children living in kibbutzim. The frequency of infantile autism is rather low among lower-class children and minority groups, supporting Kanner's data that the illness is more frequent among the upper class. These findings are inconsistent with the theory that autism is of organic origin. (From CDA, 1982, 56 (5-6), Abstract No. 2279).

214. Schell, R.E., & Adams, W.P. (1968). Training parents of a young child with profound behavior deficits to be teacher-therapists. Journal of Special Education, 2 (4), 439-454.

The authors trained the parents of an autistic child to become their son's teacher-therapist. The process included general instruction in behavior modification principles and techniques, and guidance in carrying out procedures designed to increase their sons's repertoire of acceptable behaviors, and reduce his undesirable behaviors. They discuss in detail the effectiveness on specific behaviors. They note evidence for generalization and persistence of changes. (From PA, 1969, 43 (2), Abstract No. 10095).

215. Schopler, E. (1971). Parents of psychotic children as scapegoats. Journal of Contemporary Psychotherapy, 4 (1), 17-22.

Schopler discusses how G. Allport's dimensions of scapegoating behavior apply to professional attitude toward parents of autistic children. He concludes that, in light of recent findings that autism may be linked to genetic, consitutional, and biochemical predispositions, professionals should examine their motives in classifying parents as primary agents. (From PA, 1972, 48 (1), Abstract No. 1359).

216. Schopler, E. (1976). Toward reducing behavior problems in autistic children. Journal of Autism & Childhood Schizophrenia, 6 (1), 1-13.

An historical perspective of social sources that undermine general parental abilities to manage their autistic child is presented and some possible solutions to general management obstacles are suggested. Among the myths cited are the assumptions that developmental deviations such as autism are primarily normal responses to family stress and that autism primarily involves the child's social withdrawal from a hostile environment. Specific counseling problems are discussed which include parental confusion in understanding the child's disorder, erroneous expectations for future planning, and conflicting social roles of parent and professional. Suggestions are made for helping parental management through changing treatment structures from traditional procedures. (From ECEA, 1976, 8 (3), Abstract No. 082025).

217. Schopler, E., et al. (1979). Do autistic children come from upper-middle class parents? Journal of Autism & Developmental Disorders, 9 (2), 139-152.

An empirical study was conducted on a statewide sample of families with 264 autistic and 258 nonautistic children (mean age 6 years). It was hypothesized that autistic children from high social economic status (SES) families would be associated with seven social class factors: (1) early age of onset, (2) early age of treatment admission, (3) normal cognitive potential, (4) complex rituals with maintenance of sameness, (5) long distance traveled for treatment, (6) limited availability of services, and (7) very detailed child history. Factors 1, 5, 6, and 7 distinguished high SES from low SES families in the predicted direction. (From ECEA, 1980, 12 (1), Abstract No. 120145).

218. Schopler, E., & Reichler, R. (1971). Parents as cotherapists in the treatment of psychotic children. Journal of Autism and Childhood Schizophrenia, 1, 87-102.

A treatment program for psychotic and autistic children in which parents are helped to function as primary developmental agents is described and evaluated. Research and clinical experience is reviewed suggesting that parents react to their child's developmental disorder, rather than cause the disability. Demonstrations to parents observing through a one-way screen have been focused on corrective approaches to relatedness, competence motivation, cognitive, and perceptual-motor functions. Parental participation has also included program sessions and research activities at home. The latter corroborated clinical observations that autistic children responded best to high external structures for acquiring new patterns and to relative freedom to practice those which have been mastered. Initial outcome trends are presented, indicating that parents have been developing effective skills as cotherapists. Objective recognition of their children's disabilities has helped to improve family equilibrium. Substantial improvements in participating children have been noted. Optimal or normal levels of development are prognosticated, depending on IQ, consistency of appropriate education and degree of impairment. (From CIJE, 1971, Abstract No. EJ035032).

219. Schreibman, L., & Koegel, R.L. (1975). Autism: A

defeatable horror. *Psychology Today*, *8* (10), 61-67.

Describes autism as a disease of mental imbalance which renders children either mute or "parrots". Presents a new treatment which enable parents to teach and control their own children rather than secluding them at home or in institutions. Suggestion on how parents can become successful parent-therapists are made. (From PA, 1975, *9* (1), Abstract No. 7504198).

220. Schreibman, L., & Koegel, R.L. (1967). A christmas tree for Kristin. *Psychology Today*, *10*.

Kristin at first seemed a normal child. Gradually, her parents noticed that nothing could make her happy. She cried incessantly, and a three or four hour tantrum was not unusual. At times she reacted as if she were blind or deaf. The child was autistic. Her parents entered a program that enabled them to be her therapists. With much patience and optimism on their part, the child has finally begun to behave normally. (From LLBA, 1975, *9* (1), Abstract No. 7504198).

221. Sloan, J.L., & Schopler, E. (1977). Some thoughts about developing programs for autistic adolescents. *Journal of Pediatric Psychology*, *2* (4), 187-190.

The procedures and underlying philosophy of the TEACCH (Treatment and Education of Autistic and related Communications-Handicapped Children) program are described with emphasis on the role of parents as cotherapists. The concerns of older autistic persons and their families are reviewed, including residential, employment, and social adjustment needs. It is concluded that an individualized intervention program in which parents have primary responsibility for decisions made about their child will provide the best, most responsive treatment approach. (From ECEA, 1979, *11* (1), Abstract No. 110887).

222. Sullivan, R.C. (1977). Parents speak: Needs of the older child. *Journal of Autism & Childhood Schizophrenia*, *7* (3), 287-302.

A paper titled "Planning for the Future of a Severely Handicapped Autistic Child" by K. Stokes is presented along with the reactions of three parents of adolescent or young adult autistic children. Stokes discussses the problems that concern parents of severly handicapped young adults, considers the characteristics and developmental needs of her 21-year-old autistic son, and examines the services of residential facilities. To prevent long term institutionalization of autistic individuals, she suggests provision for residential facilities with an interpersonal environment that fosters maturation, and provision of a network of sheltered situations where there is simple productive work to be done. Among the responses included in the parents' reactions to the article is the suggestion that parents take advantage of the nonprofit private schools for retarded persons which are currently available. (From ECEA, 1978, 10 (2), Abstract No. 101576).

223. Sullivan, R.C. (1979). The burn-out syndrome. Journal of Autism & Developmental Disorders, 9 (1), 112-126.

An article is presented on the burn-out of parents, particularly those of autistic children (i.e. the exhaustion of their psychological and/or physical resources as a result of long and intense caring for their children), along with the comments and responses of five parents and professionals. Aspects covered include causes of burn-out, the need for respite care, suggestions for how to cope with it, and strategies for avoiding it. (From ECEA, 1979, 11 (3), Abstract No. 114014).

224. Sullivan, R.C. (1978). The hostage parent. Journal of Autism and Childhood Schizophrenia, 8 (2), 234-240.

Describes the effects of an autistic child on parents. Stresses the importance of a philosophy and a structure in dealing with the child. Discusses the effects on parenting and benefits of a global rather than personal focus. The author concludes that being the parent of an autistic child provides an opportunity for growth and self-knowledge and encourages the development of insights into the problems of others. (From PA, 1979, 62 (1), Abstract No. 3816).

225. Sullivan, R.C. (1979). Siblings of autistic children. Journal of Autism & Developmental Disorders, 9 (3), 287-298.

Five siblings of autistic children relate some of their own experiences and provide insight on how this handicap manifests itself throughout the family's environment. A psychiatrist experienced with autistic children and their families comments on the siblings' stories. She points out that the siblings who choose to be "second parents' to the autistic should be commended for their strengths; but the siblings who choose a life apart from direct involvement need just as much moral support and love to overcome feelings of guilt, anger, sorrow, or jealousy. (From ECEA,1980, 12 (2), Abstract No. 121302).

226. Sullivan, R.C. (1978). Services: A parent's view. From where we are, about the only way to go is up. UCLA Educator, 20 (2), 29-33.

The director of the Information and Referral Service of the National Society for Autistic Children (NSAC) presents an overview of what is happening to and for autistic children and their families. The author gives examples of cases she has encountered in her work. Described are the NSAC advocacy system, public school programs, and such parent needs as sympathy, understanding, and respite for themselves and their children. (From ECEA, 1979, 11 (1), Abstract No. 111065).

227. Takatomi, T., Suzuki, K., Dendo, H., & Watanabe, T. (1974). Families of autistic children. Journal of Mental Health, 48 (22), 95-112.

The family relationships and characteristics of four autistic children and their parents are described. The authors conclude that the psychological development of these autistic children was disturbed by the father's obsessiveness and also by the lack of maternal acceptance and support. (From PA, 1975, 54 (1), Abstract No. 5502).

228. Tomaro, M.S. (1972). Learning to live happily with Jimmy. Exceptional Parent, 1 (6), 36-39.

A mother explains the family frustrations, joys, and role in helping autistic Jimmy learn to overcome his behavior problems. It is explained that patience, persistence, and firmness are needed to bring about proper behavior in the autistic child, since the autistic child may not be capable of understanding the behavior concepts on his own. The parents established behavioral goals for their son and then applied behavior change principles in achieving the goals. It is emphasized that parents need to talk constantly to the autistic child, although the nonverbal child may not seem to respond. (From ECEA, 1972, 4 (3), Abstract No. 041825).

229. Webster, C.D., et al. (1979). The child care worker in the family: Some case examples and implications for the design of family-centered programs. Child Care Quarterly, 8 (1), 5-18.

A family centered behavior modification project is described in which child care workers served as the prime therapists with families of six emotionally disturbed and autistic children. Among behaviors noted to be focused on were independent work, behavior control when angry or disappointed, and appropriate speech. Ten conclusions are presented regarding the approach, including the need for mutual staff support, families' needs for long term support, and the importance of meeting the parents' needs before the presenting problem can be understood. (From ECEA, 1979, 11 (3), Abstract No. 114096).

230. White, J.H., Hornsby, L.G., & Gordon, R. (1972). Treating infantile autism with parent therapists. International Journal of Child Psychotherapy, 1 (3), 83-95.

Presents a case where significant improvement was achieved through 18 mos of intensive parental therapy with a 5 yr-old autistic girl. The authors suggest that this therapeutic approach would be most useful in cases whre the parents are relatively free of psychopathology and are highly motivated to work with their children. (From PA, 1974, 52 (1), Abstract No. 3619).

231. Whittaker, J.K. (1976). Causes of childhood disorders: New findings. Social Work, 21 (2), 91-95.

The influence of parents on the origin and perpetuation of the developmental disorders of childhood has once again become a matter of controversy with important implications for social work education and practice. Reviewed here is recent research on two disorders-infantile autism and learning disabilities. (From CIJE, 1976, Abstract No. EJ135759).

232. Wing, L. (1980). Childhood Autism and social class: A question of selection? British Journal of Psychiatry, 137, 410-417.

233. Wolff, W.M. (1971). Intellectual and personality characteristics of autistic children. Journal of Abnormal Psychology, 77 (2), 155-161.

Speculations as to determinants of rare childhood psychoses have been more prevalent than empirical data on the topic, and especially so in relation to psychogenic hypotheses about parents of autistic children. Five sets of parents with autistic children, and two with schizophrenic offspring, provided demographic, intelligence, and personality data on their families. Results suggested that Rimland's retrospective checklist was useful in distinguishing between autistic and schizophrenic disorders. Demographic and IQ findings were not supportive of conjectures about parents' remarkable intelligence and achievement levels. Parental MMPI and "A-B therapist" measures seemed contradictory to related psychogenic hypotheses about severe childhood disturbances. Results were contrary both to positions depicting parents of autistic children as exceedingly brilliant people and as "emotional refrigerators." (From LLBA, 1971, *5* (4), Abstract No.E04535).

234. Abrams, N., & Pergament, E. (1971). Childhood psychosis combined with XYY abnormalities. Journal of Genetic Psychology, 118 (1), 13-16.

Reported is a case of the XYY syndrome coupled with psychosis in a prepubescent male. The patient was first seen at 22 months of age with the presenting problem of inability to speak. Results of physical examination, cytogenetic analysis, and psychological examination are given. In behavioral terms, the patient is described as psychotic, fulfilling most of the criteria sufficient for a diagnosis of early infantile autism when seen at 31 months of age. The patient is also described in terms of organic dysfuntion. Questions related to the need for definitive etiology in gross behavioral disturbances are raised. (From ECEA, 1971, 3 (3), Abstract No. 031890).

235. Campbell, M., Dominijanni, C., & Schneider, B. (1977). Monozygotic twins concordant for infantile autism: Follow-up. British Journal of Psychiatry, 131, 616-622.

The authors review a well-documented case of autism in monozygotic male twins, with a 12 year follow-up when the Ss were 15 1/2 years old. British records, laboratory studies, physical measurements, psychometrics, and quantifiable behavioral ratings were all assessed and presented here. The authors also discuss possible etiological factors and outcome of infantile autism. (From PA, 1978, 60 (2), Abstract No.11840).

236. Chapman, A.H. (1957). Early infantile autism in identical twins: Report of a case. AMA Arch. Neurol. Psychiat., 78, 621-623.

Review the third case of autism in identical twins, never reported in medical history. Describes the children's behavior and history and discusses the possible factors that could be inducing the behavioral withdrawal. (From PA, 1960, 34 (5-6), Abstract No. 721).

237. Chess, S. (1971). Autism in children with congenital rubella. Journal of Autism and Childhood Schizophrenia, 1 (1), 33-47.

In the course of studying the behavioral characteristics of 243 preschool children with congenital rubella, we identified the syndrome of autism in ten children and a partial syndrome of autism in an additional eight. These findings are discussed against the background of the behavioral investigations of rubella children. The methodology of our psychiatric study and the criteria for a diagnosis of autism are presented. The incidence of autism is considered with regard to the prevelance of other psychiatric disorders in this group and the physical status of the children. Two case histories of autistic rubella children are given and their behavioral characteristics are contrasted with nonautistic rubella children with matching sensory and other defects. The prevelance rate is compared with that found in two epidemiological studies and also with the rate indicated by other centers studying rubella children. Etiological implications of these findings are discussed. It is argued that these data support the concept of organic causation of the syndrome of autism. (From LLBA, 1971, 5 (3), Abstract No. E03778).

238. Chess, S. (1977). Follow-up report on autism in congenital rubella. Journal of Autism and childhood Schizophrenia, 7 (1), 69-81.

A longitudinal study was conducted of 243 children (2 to 5 years old) with congenital rubella. In this sample, a high rate of autism and a high rate of recovery were observed. Data suggested that the rubella virus was the primary etiologic agent. It was hypothesized that the course of autism was that of a chronic infection in which recovery, chronicity, improvement, worsening, and delayed appearance of the autistic syndrome all were found. Other rubella consequences such as blindness, deafness, and cardiac and neuromuscular defects remained present except as modified by operations and prostheses. Degree of mental retardation over time did not correlate significantly for the group with shift in the autistic symptoms. (From ECEA, 1978, 9 (4), Abstract No. 093029).

239. Eshevari, H.S. (1979). Early infantile autism in monozygotic twins. Journal of Autism and Developmental Disorders, 9 (1), 105-109.

The article presents a case history of a pair of male monozygotic twins who both had autism. During pregnancy the mother suffered from severe toxemia, and delivery occurred two months before term. Although there may have been a genetic influence, it appears that gestational damage was the main etiological factor for the autism in both children. (From ECEA, 1979, 11 (3), Abstract No. 114013).

240. Finegan, J., & Quarrington, B. (1979). Pre-, peri-, and neonatal factors and infantile autism. Journal of Child Psychology & Psychiatry & Allied Disciplines, 20 (2),

119-128.

Examined the birth records of 23 autistic children looking for unfavorable pre-, peri-, and neonatal events and compared the rate of these factors with the expected rate in the general population and in 15 of the Ss sbilings who were not autistic. The authors found a significantly high rate of several potentially enuropathogenic factors in the autistic Ss, including breech delivery, the presence of amniotic meconium, low birth weight, low Apgar scores, elevated serum bilirubin, hemolytic disease, and respiratory distress syndrome. These findings were signficantly higher in the autistic Ss than the controls. In support of other investigations, this study concludes that austistic children have suffered a high rate of obstetrical events that may have cause brain damage. (From PA, 1980, *64* (2), Abstract No. 10493).

241. Folstein, S., & Rutter, M. (1977). Infantile autism: A genetic study of 21 twin pairs. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *18* (4), 297-321.

A study of 11 monozyotic and 10 dizygotic 5-23 year-old same-sexed twin pairs, in which at least on twin suffered from infantile autism. Conclusions found important hereditary influences concerning a cognitive deficit. It is suggested that brain injury in the infancy period may lead to autism on its own or in combination with a genetic predisposition. However it is uncertain of the mode of inheritance and exactly what is inherited. (From PA, 1978, *60* (1), Abstract No. 5365).

242. Friedman, E. (1969). The autistic syndrome and phenylketonuria. *Schizophrenia*, *1* (4), 249-261.

The literature concerning infantile and childhood schizophrenia is reviewed with particular concern for the status of certain symptoms. Etiological aspects are considered. Autism is examined as a symptom of childhood schizophrenia and of phenylketonuria. Effects of the phenylalanine-free diet on behavior are discussed. The role of serotonin in childhood schizophrenia and phenylketonuria is examined. (From ECEA, 1971, *2* (4), Abstract No. 005859).

243. Glavin, J.P. (1966). Rapid oxygen change as possible etiology of RLF and autism. *Archives of General Psychiatry*, *15* (3), 301-309.

The author notes a similarity in behavior between children with retrolental fibroplasia (RLF) and autistic children.

Although the cause of autism and related behavior disorders is unknown, this is thought to be significant because the cause of RLF is though to be hyperoxia. (From PA, 1966, 40 (2), Abstract No. 12563).

244. Hackney, J.M. (1967). Autistic behavior patterns in phenylketonuric children. Canadian Psychiatric Association Journal, 12 (3), 333-343.

A case study of nine phenylketonuric children showing autistic behavior patterns. The majority of Ss lost the autistic behavior patterns over time without psychotherapeutic intervention. The author raises the question of etiology and factors affecting their development. (From PA, 1967, 41 (2), Abstract No. 12392).

245. Hansen, A., et al. (1977). A case report of an autistic girl with an extra bisatellited marker chromosme. Journal of Autism and Childhood Schizophrenia, 7 (3), 263-267.

The authors review a cytogenetic examination of a 14 yr-old severely retarded girl which revealed a karyotype of 47 chromosomes with an extra bisatellited chromosome, a translocation between No. 22, and a chromosome in the D group. Presents data from child psychiatric examinations at age 5 and 14 years. Stresses the importance of informing parents as early as possible about biological causes of mental retardation and mental illness. (From PA, 1978, 60 (1), Abstract No. 5337).

246. Hanson, D.R. (1976). The genetics, if any, of infantile autism and childhood schizophrenia. Journal of Autism and Childhood Schizophrenia, 6 (3), 209-234.

A critical examination of the data for and against genetic factors in early infantile autism and childhood schizophrenia is presented. It is reported that the extreme rareness of both disorders made analysis difficult, and that no strong evidence exists implicating genetics in the development of childhood psychoses that begin before the age of 5. Findings are noted to show that family pedigree data fail to support psychogenic transmission because very few siblings of early onset cases are affected. Biological but not genetic etiological agents are seen to be more likely. Genetic factors are claimed to be implicated in the development of psychoses that begin near pubescence and such factors appear to overlap with those for adult schizophrenia. Reevaluation of the minimum age of onset for adult type schizophrenia is suggested. (From ECEA, 1977, 9 (2), Abstract No. 091259).

247. Honjo, S., & Wakabayashi, S. 91981). A clinical study of infantile autism in twins, (Jap). *Japanese Journal of Child and Adolescent Psychiatry*, *22*, 91-102.

From these results and the very low rate of infantile autism in the general population (0.045%), we speculate that genetic elements play some part in the appearance of infantile autism. (From CDA, 1982, *56* (5-6), Abstract No. 2228).

248. Judd, L.L., & Mandell, A.J. (1968). Chromosome studies in early infantile autism. *Archives of General Psychiatry*, *17* (4), 450-457.

A complete chromosomal analysis in a group of 11 children. Out of 8 boys, 3 had large Y chromosomes. The nonautistic father of two of these subjects had a similar large Y. This eliminated a causal link between this chromosome variation and autism. The authors discuss the normal variations in the size and shape of the Y chromosome. It is suggested the hereditary factors might effect the development of early infantile autism in twins. (From PA, 1968, *42* (2), Abstract No. 11854).

249. Kamp, L.N. (1964). Autistic syndrome in one of a pair of monozygotic twins. *Psychiatria, Neurologica, Neurochirurgia*, *67* (2), 143-147.

The author describes the psychotic behavior of one of a pair of monzygotic twin sisters aged 3 and analyzes a few of the symptoms. Emphasizes the possible influence of the psychological interaction between the twins, through a discussion of etiology. (From PA, 1965, *39* (2), Abstract No. 16157).

250. Kirman, B.H. (1973). Clinical aspects. In J.Wortis (Ed.), *Mental Retardation and Developmental Disabilities. An Annual Review.* New York: Brunner/Mazel.

The author discusses recent research findings on the role of chromosome abnormalities, viral infections, intrauterine and perinatal factors, epilepsy, infantile autism, and mental illness in mental retardation. (From PA, 1974, *51* (1), Abstract No. 1195).

251. Kotsopoulos, S. (1976). Infantile autism in dizygotic twins. A case report. *Journal of Autism and Childhood Schizophrenia*, *6* (2), 133-138.

Studied was a pair of dizygotic twins who both developed psychotic symptoms indicative of infantile autism at the age of 31-32 months. By the age of 5 years when the children were evaluated, and over the 1-1/2 years they were followed, some improvement could be observed. Certain family events which took place just prior to the outbreak of the psychosis were seen to have some causative relation with the disorder by acting as environmental stress factors. The possibility of a genetic factor also contributed to the appearance of the disorder could not be excluded in view of the existence of a first cousin with autistic symptoms. (From ECEA, 1977, 9 (1), Abstract No. 090038).

252. Kotsopoulos, S., & Kutty, K.M. (1979). Histidinemia and infantile autism. Journal of Autism and Developmental Disorders, 9 (1), 55-60.

The article presents a case history of a boy with both infantile autism and histidinemia (an inborn error of amino acid metabolism), and discusses the possible relationship between the two conditions. (From ECEA, 1979, 11 (3), Abstract No. 114009).

253. Mizuno, M., & Wakabayaski, s. (1977). A study of autistic children in twins. (Japn) Japanese Journal of Child Psychiatry, 18 (4), 235-246.

Reports findings of 7 pairs of twins out of 415 autistic children who were being treated at a Japanese hospital. This rate is more than 3 times that of the general population. Six sets of the twins were males and all were monozygous. These findings support the genetic factors theory of autism, however, nongenetic factors should not be neglected. (From PA, 1980, 64 (2), Abstract No. 12648).

254. Money, J., Borrow, N.A., & Clarke, F.C. (1971). Autism and autoimmune disease: A family study. Journal of Autism and Childhood Schizophrenia, 1 (2), 146-60.

A family is presented to demonstrate the rare phenomenon of early infantile autism in the presence of autoimmune disease. The youngest son in the family has a multiple diagnosis of autism, Addison's disease, and moniliasis. The next older brother has hypoparathyroidism, Addison's disease, moniliasis, and diabete mellitus. The next older brother has hypoparthyroidism, Addison's disease, moniliasis, and alopecia totalis. The oldest son and first born child in this family of four is, along with the parents, symptom free. Whereas autism in the youngest son might be attributed to the traumatic family situation, in which there exists the constant threat of near-death, it might conceivably be attributed also to a primary effect of autoimmune impairment from the formation of autoantibodies affecting the central nervous system. (From LLBA, 1971, 5 (4), Abstract No. E05059).

255. McQuaid, P.E. (1975). Infantile autism in twins. British Journal of Psychiatry, 127, 530-534.

The author reviews a single case of monozygotic male twins concordant for early infantile autism (EIA). Draws a distinction between EIA and infantile psychosis (IP) using associated mental retardation as a guide to prognosis and the necessity to provide suitable social training and education. Discusses the relevance of etiology. Notes the importance of abnormal ante-natal history and delivery status, even in cases with strong genetic predisposition. (From PA, 1976, 55 (2), Abstract No. 7307).

256. Ritvo, E.R., Ritvo, E.C., & Brothers, A.M. (1982). Genetic and immunohematologic factors in autism. Journal of Autism and Developmental Disorders, 12, 109-114.

An analysis is be made of clinical factors from as many multiple-incidence families as can be validly identified. Blood studies of genetic and immunologic factors were conducted on a specific subgroup of families in an attempt to identify biological markers associated with autism. (From CDA, 1983, 57 (1-2), Abstract No. 764).

257. Sankar, S.D. (1970). Chromosome breakage in infantile autism. Developmental Medicine and Child Neurology, 12 (5), 572-575.

An outline of recent studies on 67 children with psychiatric disorders, of whom 18 were diagnosed as non-autistic schizophrenics and 31 as autistic schizophrenics. While there were no significant chromosomal aberrations in the group of children with other psychiatric disorders, cultural leucocytes from the autistic children showed a considerably larger number of chromosome breakages than did those from the non-autistic children. (From LLBA, 1971, 5 (2), Abstract No. E01470).

258. Sloan, J.L. (1978). Differential development of autistic symptoms in a pair of fraternal twins. Journal of Autism and Childhood Schizophrenia, 8 (2), 191-202.

The case study reports the differential development of autistic symptoms over a 9 year period in a pair of fraternal twins. Diagnostic, etiological, and treatment implications are discussed. It is explained that evaluations revealed that although the older twin showed some early signs of pathology and suffered from frequent illnesses, he ultimately has developed more normally than his sister, who likely sustained brain damage as result of perinatal anoxia. (From ECEA, 1979, 11 (1), Abstract No. 110795).

259. Spence, M.A. (1973). Sex ratios in families of autistic children. American Journal of Mental Deficiency, 77 (4), 405-407.

It is an accepted fact that males are more often affected with autism than females irrespective of the precise definition used for diagnosis. Preliminary reports in the literature indicate that the deviation in sex ratio might be a more general phenomenon in these families. A study of 47 families, including five families with two affected children, indicates that deviations from the expected one to one sex ratio do in fact occur. Maternal siblings showed a significant deviation in the direction of the sex of the proband. Paternal siblings showed just the opposite deviation for female probands only. There was also a significant deviation in the paternal first cousins of the male probands. No simple explanation can be provided for these results. (From LLBA, 1973, 7 (1), Abstract No. 7302772).

260. Stabenau, J.R. (1977). Early infantile autism: A genetic central nervous system disorder? Research Communications in Psychology, Psychiatry & Behavior, 2 (2), 131-146.

A study on twins with the diagnosis of early infantile autism (EIA) shows that of 21 monzygotic (MZ) twin pairs, 20 pairs (95%) were concordant for EIA and one female MZ pair was discordant for EIA. Out of 5 dizygotic twin pairs (DZ), all were discordant for EIA. The author suggests that the etiology is most likely a gnetically controlled disorder of the CNS related to the observed clinical perceptual and cognitive language malfunctions of the EIA child. This type of childhood psychosis is not felt to be genetically related to schizophrenia. (From PA, 1978, 59 (2), Abstract No. 12496).

261. Stubbs, E.G., Burger, D.R., & Vandenbark, A.A. (1980). Transfer factor immunotherapy of an autistic child with congenital cytomegalovirus. Journal of Autism and Developmental Disorders, 10, 451-458.

One child with congenital cytomegalovirus and autistic symptoms provided an opportunity to study the effect of transfer factor on congenital cytomegalovirus, and autistic symptoms. Transfer factor was given to the patient over an 18-month period, beginning at 20 months. Improvements were noted in motor and social development. (From CDA, 1981, *55* (5-6), Abstract No. 1247).

262. Stubbs, E.G. (1978). Autistic symptom in a child with congential cytomegalovirus infection. *Journal of Autism and Childhood Schizophrenia*, *8* (1), 37-43.

A case of intrauterine cytomegalovirus infection with onset of autistic symptoms apparently after 6 months of age is reported. Physicians who find autistic symptoms in very young children might include cytomegalovirus in their differential to document the presence or absence of a correlation. (From ECEA, 1979, *10* (4), Abstract No. 104130).

263. Torrey, E.F., Hersh, S.P., & McCabe, K.D. (1975). Early childhood psychosis and bleeding during pregnancy: A prospective study of gravid women and their offspring. *Journal of Autism & Childhood Schizophrenia*, *5* (4), 287-297.

A study of 20 children identified as suffering from infantile autism and childhood psychosis in the National Institute of Neurological Disease and Stroke Collaborative Perinatal Study. Results tended to support previous data, indicating a higher proportion of perinatal complication in children who develop autism and childhood psychosis. (From PA, 1978, *59* (1), Abstract No. 1248).

264. Vaillant, G.E. (1963). Twins discordant for early infantile autism. *Archives of General Psychiatry*, *9* (2), 163-167.

Presents the case of two pairs of twins aged 11 and 15. Possible hereditary determinants of impaired language acquisition were indicated for the heterozygous autistic twin. The "probably homozygous" twin case "suggests that, although genetic factors may play a part, in some cases the syndrome of infantile autism appears to be a reversible one". (From PA, 1964, *38*, Abstract No. 2385).

265. Verhees, B. (1976). A pair of classically early infantile autistic siblings. *Journal of Autism and Childhood Schizophrenia*, *6* (1), 53-59.

Presents the cases of two autistic siblings described in B. Rimlands's analysis of checklists for psychotic children, as the only pair of classically early infantile autistic siblings. The girl, now 13 yrs old, is non-verbal and developed epileptic seizures at age 4 1/2. She continues to show all symptoms of early infantile autism. Her 24 yr-old brother does no appear to fit into any of the known psychopathological patterns of childhood. He displays all symptoms of early infantile autism along with some of the main symptoms of childhood schizophrenia and autistic psychopathy. The author suggests that these are unusually mixed type cases that fall within a broad category of genetically determined autistic disorders. (From PA, 1978, 59 (1), Abstract No. 1249).

266. Wakabayshi, S., & Mizuno, M. (1976). A study of autism in siblings of autistic children. (Japn) Japanese Journal of Child Psychiatry, 17 (3), 154-164.

This study found 5 of the 276 siblings of 242 autistic children were themselves autistic. The rate (1.8%) is much higher than that in the general population (.045%). Thus, it does not support the concept that almost all siblings of autistic children are normal. However, it does suggest that genetic factor may be involved in autism. (From PA, 1980, 64 (2), Abstract No. 12682).

267. Wakabayaski, S. (1979). A case history of infantile autism associated with Down's Syndrome. Journal of Autism and Developmental Disorders, 9 (1), 31-36.

The article presents a case history of infantile autism associated with Down's syndrome, and discusses the relationship between the two conditions. Among the aspects covered are the child's family history and his developmental and medical history. (From CIJE, 1979, Abstract No. EJ201405).

268. Walker, H.A. (1977). Incidence of minor physical anomaly in autism. Journal of Autism and Childhood Schizophrenia, 7 (2), 165-176.

Seventy-four autistic children (4 to 25 years old) were matched by age and sex with 74 control Ss and examined for presence of minor physical anomalies. Of the 16 anomalies scored, autistic children demonstrated a significant accumulation greater than the number exhibited by normal children. Three of the stigmata-low seating of ears, hypertelorism, and syndactylia - were expressed differentially in the two groups, and high palate as well as unusual cranial circumference were significantly high in both groups. Clusters of stigmata that might be associated with known chromosomal disorders could not be identified. The increased number of anomalies suggested that among autistic children such congenital markers indicate a deviant intrauterine experience. (From ECEA, 1978, 10 (1), Abstract No. 100339).

269. Wing, L. (1981). Sex ratios in early childhood autism and related conditions. Psychiatry Research, 5, 129-137.

270. Bouillin, D.J., Coleman, M., O'Brien, R.A., & Rimland, B. (1971). Laboratory predictions of infantile autism based on 5-hydroxytryptamine efflux from blood platelets and their correlation with the Rimland E-2 score. Journal of Autism and Childhood Schizophrenia, 1 (1), 63-71.

Experiments were conducted to determine the possibility of predicting a diagnosis of autism basis of an abnormally high release of 14C-5-hydroxytryptamine from 5-HT loaded blood platelets of children. Such increased 5-HT release was previously reported by the authors for blood platelets of children diagnosed as autistic according to the Rimland E-2 score. The platelets of 10 psychotic children (including a number of subjects diagnosed as autistic by the E-2 score) were examined without knowledge of the diagnosis, in order to determine whether the biochemical results correlated with the E-2 score. On the basis of experimental data it was possible to predict that six children were autistic and four were nonautistic psychotics. According to the E-2 score, seven children were autistic and three nonautistic psychotics. It was concluded that there is a correlation between a diagnosis of infantile autism by the E-2 score and enhanced release of radioactive 5-HT from 5-HT-loaded blood platelets in vitro. (From LLBA, 1971, 5 (3), Abstract No. E03780).

271. Boullin, D.J. & O'Brien, R.A. (1972). Uptake and loss of 14C-dopamine by platelets from children with infantile autism. Journal of Autism and Childhood Schizophrenia, 2 (1), 67-74.

A study of uptake and loss of 14c-dopamine by platelets from five autistic children, four boys and one girl, nine to nineteen years of age, is reported and discussed. The results are compared with those obtained from normal, age-matched controls. There were no significant differences in the uptake or loss of dopamine in the autistic group, but there was much greater variation in individual values. In one S, dopamine uptake and loss were both abnormally high, which may be indicative of a body defect for dopamine in platelets of autistic children. As endogenous 14C-5 hydroxytryptamine and adenosine triphosphate were normal, the defect would not involve an abnormality in dopamine: adenosine triphosphate complex formation. It is suggested that these results highlight the need for more extensive investigation of brain biochemistry in autism. (From LLBA, 1972, 6 (2), Abstract No. 7204813).

272. Cohen, D.J., Johnson, W., Caparulo, B.K., & Young, G.

(1977). Creatine phosphokinase levels in children with severe developmental disturbances. Annual Progress in Child Psychiatry & Child Development, p.204-212.

Examined the serum creatine phosphokinase (CPK) levels in 110 Ss age 3-21 years and 32-49 years. The Ss included: 40 psychotic children with childhood autism, atypical personality development, and childhood schizophrenia; 5 children with childhood aphasia; 22 children with severe personality disorders; 29 normal children and normal siblings of pychotic children; and 14 normal parents of psychotic children. CPK levels were found to be normally distributed among all Ss. The mean CPK levels were within normal limits for all 8 diagnostic group. Significantly higher CPK levels were found in the 22 children with personality disorders than in the other diagnostic groups. It is suggested that this may be related to vulnerability to the development of schizophrenic disorders, at a later time. No relationship was found between CPK levels and motor activity. A trial of psychoactive medication did not cause any change in the level of CPK. (From PA, 1981, 66 (1), Abstract No. 5901).

273. Cohen, D.J. et al. (1976). Pica and elevated blood lead level in autistic and atypical children. American Journal of Diseases of Children, 130 (1), 47-48.

Blood lead concentrations were examined in 34 autistic and psychotic children (3-3 years old) and in 10 of their normal siblings. Evaluation included blood studies, electroencephalograms, and roentgenograms; and blood lead level was determined by the atomic absorption method. Findings revealed that mean blood level concentration was notably higher in the autistic than in the nonautistic psychotic children or the normal siblings; and that 44% of the autistic and nonautistic psychotic children had blood lead levels greater than two standard deviations above the mean for normal controls. (From ECEA, 1976, 8 (2), Abstract No. 081182).

274. Cohen, D. et al. (1974). Biogenicamines in autistic and atypical children: Cerebrospinal fluid measures of homvanillic acid and 5-hydroxyindoleacetic acid. Archives of General Psychiatry, 31 (6), 845-853.

275. Cohen, D. et al. (1977). Platelet monoamine oxidase in early childhood autism. Archives of General Psychiatry, 34 (5), 534-537.

276. Coleman, M. (1973). Serotonin and central nervous system syndroms in childhood: A review. Journal of Autism and

Childhood Schizophrenia, 3 (1), 27-35.

Briefly reviewed are clinical studies of serotonin 5-hydroxytryptamine (5-HT) and it metabolites in children with central nervous system diseases which affect brain function. Evidence of 5-HT abnormalities in the hyperactive syndromes, primary infantile autism, and childhood schizophrenia is reviewed and compared with the many types of mental retardation with documented serotonin abnormalities. The platelet "model" system is postulated to explain the relationship of serotonin abnormalities in blood to clinical evidence of brain dysfuntion in these varying patient groups. The non-specificity of serotonin abnormalities in humans is emphasized. (From ECEA, 1974, 5 (4), Abstract No. D52446).

277. DeMyer, M.K., Schwier, H., Bryson, C., Solow, E., & Roeske, N. (1971). Free fatty acid response to insulin and glucose stimulation in schizophrenic, autistic, and emotionally disturbed children. Journal of Autism and Childhood Schizophrenia, 1 (4), 436-452.

A report of three related studies of plasma free fatty acid (FFA) metabolism involving 15 autistic and schizophrenic, 14 emotionally disturbed, and 49 normal children. In the first, baseline FFA levels from one to four days showed significantly greater FFA variability in psychotic than in other children. In the second, contrary to paradoxical response in some adult schizophrenics, FFA lowered significantly and normally after intravenous insulin injection in four autistic children. In the third, involving glucose ingestion by 11 psychotic, 14 emotionally disturbed, and 13 normal children on high carbohydrate diets, subsequent FFA and glucose determination at 45 minutes and two hours revealed no differences. Mean FFA levels were higher in the psychotic group. It is suggested that a possible reason for FFA variability in psychotic children may be a deficiency in the regulatory feedback mechanism at a neurogenic or cellular level. (From LLBA, 1972, 6 (2), Abstract No. 7204823).

278. Garreau, B., Barthelemy, C. et al. (1980). Troubles du metabolisme de la dopamine chez des enfants ayant un comportement autistique. Disturbances in dopamine metabolism in autistic children: Results of clinical tests and urinary dosages of homvanilic acid (HVA). Acta Psychiat. Belg., 80, 249-265.

279. Hanley, H., Stahl, S., & Freedman, D. (1977). Hyperserotonemia and amine metabolites in autistic and retarded children. Archives of General Psychiatry, 34 (5), 521-531.

The authors attempted to (a) replicate laboratory studies that found blood serotonin (5-hydroxytryptamine, 5-HT) levels elevated in some severely retarded and autistic children, and (b) determine the mechanisms for the increases in blood 5-HT levels. They found 8 of 27 autistic children, 13 of 25 severely retarded children, 2 of 23 mildly retarded children, and none of the control children had significant blood 5-HT level elevations (Hypersortonemia). More urinary 5-HT, 5-hydroxyindole-acetic acid (5-HIAA), tryptamine, and vanilly/mandelic acid was excreted by hperserotonemic autistic children than the mildly retarded children with normal blood of 5-HT levels. Identical rates of depletion and repletion of blood 5-HT levels were found in these two groups following reserpine therapy. Urinary 5-HIAA excretion doubled in both groups, with the administration of oral tryptophan, and urinary 5-HT levels were raised in hyperserotonemic autistic children but urinary 5-HT was lowered in mildly retarded. The authors did not find any clear mechanism for hyperserotenemia and discuss the rationale for further investigations. (From PA, 1978, 59 (1), Abstract No. 5775).

280. Hill, S.D., Wagner, E.A., Shedlarski, J.G. & Sears, S.P. (1977). Diurnal cortisol and temperature variation of normal and autistic children. Developmental Psychobiology, 10 (6), 579-583.

The authors studied blood samples and temperature measurements over a 24-hour period. Ss included one female and five male children (mean age 7.83 years) with autistic features and one male and two female normal control children. A relatively adult diurnal rhythmicity in cortisol and temperature was found in the normal Ss. However, measures showed abnormal patterns in 4 of 6 autistic children. The irregularities in these two systems are presented as support for the idea that a neurintegrative defect of the pituitary-adrenocortical system is a factor in autism. (From PA, 1978, 60 (2), Abstract No. 7586).

281. Himwich, H.E., Jenkins, R.L., Fujimor, M., Narasimhacher, N., & Ebersole, M. (1972). A biochemical study of early infantile autism. Journal of Autism and Childhood Schizophrenia, 2 (2), 114-126.

A pilot study designed to determine whether patients with a diagnosis of infantile autism excreted N, N-dimethyltryptamine, 5-methoxy-N, N-dimethyltryptamine and bufotenin, as do some chronic adult schizophrenic patients, is presented and discussed. Twenty four hour urinary collections from 12 children and adolescents, 10 boys and two girls, were made at their homes. Subsequently, 24 hour samples were also collected during 14 consecutive days from the six children who were possibly autistic and on controlled diet at the hospital. At home, samples of the normal controls and of two possibly autistic patients were negative for bufotenin. In the hospital, those of five of the six were positive. It is suggested that some patients with a diagnosis of early infantile autism excrete bufotenin, an ability they share with schizophrenic patients. (From LLBA, 1973, 7 (1), Abstract No. 7301448).

282. Hutt, C., Forrest, S.J., & Richer, J. (1975). Cardia arrhythmia and behavior in autistic children. Acta Scandinavica, 51 (5), 361-372.

The authors simultaneously videorecorded the behavior and heart rate of nine 4-12 year-old children in a standard situation. The heart rate of the autistic Ss was found to be much more variable, more often, than that of the normal controls. While involved in a task, the arrhythmia was suppressed and while performing stereotyped behaviors, the arrhythmia was at a maximum. The arrhythmia was behavior-dependent in all Ss. Discusses the functional implications of these behavior-heart rate associations. (From PA, 1975, 54 (2), Abstract No. 11966).

283. Hutt, C. & Hutt, S.J. (1969). Biological studies of autism. Journal of Special Education, 3 (1), 3-14.

Several observation-type behavioral studies were made of autistic children between the ages of 2-1/2 and 7. Indications were that autistic children had a gaze aversion, avoided groups, and had to be very familiar with an object before examining it. Findings also suggested that the children were in a chronically aroused neurophysiological state and, therefore, novelty of stimuli or changes in routine were likely to elicit disturbed behavior. The study's implications for the handling of autistic children are discussed. (From ECEA, 1971, 2 (4), Abstract No. 004175).

284. Jackson, M.J., & Garrod, P.J. (1978). Plasma zinc, copper, and amino acid levels in the blood of autistic children. Journal of Autism and Childhood Schizophrenia, 8 (2), 203-208.

The authors measured plasma, zinc, copper, and amino acid levels in twenty 7-16 year-old autistic children who were divided into 2 groups: 12 who met L. Kanner's criteria; and 8 who were atypical on one of 3 areas of abnormality (social relationships, language, obsessive/stereotyped play). Thirty normal 7-17 year-olds were used as controls. Normal levels were found in all three variables. The results are not congruent with previous studies. This suggests that autism cannot simply be attributed to a disorder of zinc metabolism. (From PA, 1979, 62 (1), Abstract No. 3769).

285. Johnson, R.J., Wiersema, V., & Kraft, I.A. (1974). Hair amino acids in childhood autism. Journal of Autism and Childhood Schizophrenia, 4 (2), 187-188.

Several metabolic diseases characterized by amino acid abnormalities result in structural aberrations of hair protein and/or excretion of characteristic amino acids or metabolites. Since there are inherent problems associated with the collection of urine from autistic children, hair clippings were collected: 61 autistic children and 15 normal controls participated. Type of shampoo used, color, fragility, and texture revealed no correlation with amino acid content. No diet control was used. The hair samples treated with 6 N hydorchloric acid for 48 hours at 110 degrees. The Hydrolyzates were later filtered through a 0.45 micron Millipore filter and an aliquot was quantitatively analyzed in a Hitachi-Perkin Elmer amino acid analyzer. No significant differences in hair amino acid composition between autistic and control children were found. (From LLBA, 1975, 9 (1), Abstract No. 7502991).

286. Lake, C.R., Ziegler, M.G., & Murphy, D.L. (1977). Increased norepinephrine levels and decreased dopamine-B-hydroxylase acitivity in primary autism. Archives of General Psychiatry, 34 (5), 553-556.

Evaluated the sympathetic nervous system in eleven 8-35 year old primary autistic patients and their families. The plasma levels of norepinephrine (NE), the neurotransmitter of the sympathetic nervous system, was higher in the patients than in age-controlled normal volunteers both while supine and after standing. The plasma activity of dopamine-B-hydroxylase, the enzyme that converts dopamine to NE, was significantly lower in the autistic patients and their healthy relatives than in control groups. Dopamine-B-hydroxylase does not appear to provide an index of sympathetic activity in this group of patients who, on the basis of the elevated plasma levels of NE, may demonstrate a chronic state of hyperactivity of the sympathetic nervous system. Low enzyme activity found in both the autistic patients and their immediate families may be associated with this disorder. (From LLBA, 1978, 59 (1), Abstract No. 5824).

287. Maher, K.R., Harper, J.F., Macleay, A., & King, M.G. (1975). Peculiarities in the endocrine response to insulin stress in early infantile autism Journal of

Nervous and Mental Disease, 161, 180-184.

Autistic children subjected to stress of insulin-induced hypoglycemia showed slower recovery of blood glucose, and faster and intractable cortical response in the 3 hours following the stress. These data suggest that autistic Ss overreact to this stressor and support clinical evidence of stress intolerance. (From CDA, 1977, 51 (1-2), Abstract No. 311).

288. Menolascino, F.J., & Eyde, D.R. (1979). Biophysical bases of autism. Behavioral Disorders, 5 (1), 41-47.

The article reviews a variety of biophysical variables contribute to autism or autistic symptoms, and discusses the nature and manifestations of these psychobiological variables in terms of the need for individual yet comprehensive educational interventions and family support services. Congential malformations of the central nervous system, residuals of pre- and postnatal infections, inborn errors of metabolism, chromosomal disorders, cerebral anoxia, symptom clusters of language disorders, infantile spasms, and severe auditory impairments are examined relative to autistic reactions, and to potential amelioration of the problematic symptoms. (From ECER, 1980, 12 (3), Abstract No. 12 2596).

289. Narasimhachari, N. & Himwich, H. (1973). GC-MS identification of bufotenin in urine samples from patients with schizophrenia or infantile autism. Life Sciences, 12 (10, Pt. 2), 475-4780.

The authors examined urine samples from 2 drug-free chronic schizophrenic patients and 2 autistic children. They discovered bufotenine in the Ss samples but not in samples from 4 normal controls. Thin layer chromatography of the tertiaty amine fraction using a specific opthalaldehyde spray and gas chromatography were the basis of identification. Gas chromatography-mass spectrum analysis of the bufotenine-positive samples through its trimethylsilyl derivative provided unambiguous proof of the role of bufotenine. (From PA, 1974, 51 (1), Abstract No. 1271).

290. Perry, T.L., Hansen, S., & Christie, R.G. (1978). Amino compounds and organic acids in CSF, plasma, and urine of autistic children. Biological Psychiatry, 13 (5), 575-586.

The authors measured amino compounds with an amino acid analyzer in the fasting plasma of 34 patients (mean age 10 yrs) with childhood psychosis (28 with infantile autism) and 40 control children and in the cerebrospinal fluid(CSF) of 19 of the psychotic children and 23 controls. Gas chromatography determined the presence of organic acids in urine, plasma and CSFof the psychotic Ss. The psychotic Ss had a significantly higher mean concentration of ethanolamine in CSF than the controls. There may be a signifcantly higher mean concentration of ethanolamine in CSF than the controls. There may be a subgroup of autistic Ss with a brain disorder involving ethanolamine metabolism. The authors did not find any of the known inherited diseases of organic acid metabolism in any of the psychotic Ss. However, abnormal organic acid content in the CSF of such patients may be disclosed in future studies utilizing sophisticated gas chromatography/mass spectrometry/computer technics. (From PA, 1980, 63 (2), Abstract No. 7714).

291. Rimland, B. (1976). Platelet uptake and efflux of serotonin in subtypes of psychotic children. Journal of Autism and Childhood Schizophrenia, 6 (4), 379-382.

Rimland argues that the failure of A. Yuwiler et al. (1975) to replicate J.D. Boulin et al.s (1970;1971) finding of an elevated efflux of serotonin, from the platelets of children with early infantile autism, was due to methodological differences in subject selection. (From PA, 1977, 58 (1), Abstract No. 3491).

292. Ritvo, E.R., & Freeman, B.J. (1977). Current status of biochemical research in autism. Journal of Pediatric Psychology, 2 (4), 149-152.

Biochemical studies of children diagnosed as autistic, schizophrenic, psychotic, and as having related developmental disabilites are reviewed. Studies are grouped in chronological order under the following headings: serotonin, tryptophan, catecholamines, and enzyme studies. It is explained that the following three major methodological issues limit cross-comparison of research results; lack of diagnostic specificity, differences in biochemical assay techniques, and a paucity of normal developmental data. Studies for future investigation are recommended. (From ECEA, 1979, 11 (1), Abstract No. 11088).

293. Ritvo, E.R., Ornitz, E.M., Tanguay, P., & Lee, J.C. (1970). Neurophysiologic and biochemical abnormalities in infantile autism and childhood schizophrenia. American Journal of Orthopsychiatry, 40 (2), 330-331.

A digest of a paper presented at the Forty-Seventh Annual Meeting of the American Orthopsychiatric Association, San Francisco, California, 23-26 March 1970. A review was made of the clinical evidence indicating that children with early infantile autism, symbiotic psychosis, atypical ego development, and certain cases of childhood schizophrenia suffer from a unitary disease process. Studies of abnormal and patient populations discovered differences in auditory evoked response during REM sleep, in the background EEG of all-night sleep records, and reaction to post rotatory nystagmus tests in the light and the dark. Frequencies of repetitive behavior in autistic children are also discussed. Recent studies of 24 patients and 35 age-matched controls show that the patients have significantly higher levels of blood serotin and platelets. (From LLBA, 1970, 4 (1), Abstract No. D02162).

294. Ritvo, E.R. (1977). Biochemical studies of children with the syndromes of autism, childhood schizophrenia and related developmental disabilities: A review. Journal of Child Psychology & Psychiatry and Allied Disciplines, 18 (4), 373-379.

The author reviews research relating to abnormalities in serotonin metabolism, bufotenin excretion, tryptophan metabolism, cateholamines, and enzymes. (From PA, 1978, 60 (1), Abstract No. 5345).

295. Ritvo, E.R. et al. (1970). Increased blood serotonin and platelets in early infantile autism. Archives of General Psychiatry, 23 (6), 566-572.

Ritvo obtained data from normal controls and 24 hospitalized children with documented cases of early infantile autism using a highly reliable method of determining whole blood serotonin levels. The blood platelet determinations were done on both groups simultaneously. Results showed: (a) both blood serotonin and platelet values were inversely related to age in the normal group; (b) significantly higher mean serotonin and platelet counts in age-matched groups of autistics, than in controls; (c) no significant difference in mean serotonin/platelet values between age-matched groups of autistic and controls. A significantly greater variability of serotonin/platelet values were found within the youngest group of age-match Ss compared to controls (24-47 mos) and it appears to be related to a significantly greater variability of platelet levels in autistic children. (From PA, 1971, 45, Abstract No. 8637).

296. Ritvo, E.R., Yuwiler, A., Geller, E., Kales, A., Rashkis, S., Schicor, A. Plotkin, S., Axelrod, R., & Howard, C. (1971). Effects of L-dopa in autism. Journal of Autism and Childhood Schizophrenia, 1 (2), 190-205.

A study designed to determine if blood serotonin concentrations could be lowered in autistic children by administration of L-dopa and, if so, to observe possible clinical or physiological changes. Following a 17-day placebo period, four hospitalized autistic boys (3,4,9 and 13 years of age) received L-dopa for 6 months. Results indicated a significant decrease of blood serotonin concentrations in the three youngest patients, a significant increase in platelet counts in the youngest patient, and a similar trend in others. Urinary excretion of 5HIAA decreased significantly in the 4-year-old patient and a similar trend was noted in others. No changes were observed in the clinical course of the disorder, the amount of motility disturbances (hand-flapping), percent of REM sleep time, or in measures of endocrine function (FSH and LH). Possible mechanisms by which L-dopa lowered blood serotonin concentrations, increased platelet counts, and yet failed to produce other changes are discussed. (From LLBA, 1971, 5 (4), Abstract No. E05061).

297. Roth, J.A., Young, J.G., & Cohen, D.J. (1976). Platelet monoamine oxidase acitivity in children and adolescents. Life Sciences, 18 (9), 919-924.

The authors examined platelet monoamine oxidase activity in a group of 33 preadolescents, adolescents, and post adolescent individuals. Females, in all 3 groups, had the highest platelet oxidase activity. Those Ss with primary autism displayed no differences in their platelet oxidase activity when compare to Ss of similar age and sex. (From PA, 1976, 56 (1), Abstract No. 4204).

298. Rotman, A., Caplan, R., & Szekely, G.A. (1980). Platelet uptake of serotonin in psychotic children. Psychopharmacology, 67 (3), 245-248.

The authors examined 10 long-term hospitalized children in 2 groups-autistic and other psychotic-and found constant and significantly different platelet serotonin uptake values. The possible importance of genetic factors is implied from 3 weekly assays on 6 parents. (From PA, 1981, 65 (2), Abstract No. 10596).

299. Sankar, D.V. (1977). Uptake of 5-hydroxytryptamine by isolated platelets in childhood schizophrenia and autism. Neuropsychobiology, 3 (4), 234-239.

Following up on earlier research that indicated a platelet abnormality in the vitro accumulation of serotonin in childhood schizophrenia, especially early infantile autism. The authors selected 117 7-15 yr-olds, on a blind basis with respect to age and diagnosis from a children's hospital. The Ss were free of medication and overt somatic diseases for a period of 2-4 weeks. No significant differences were found due to age, sex, or race in the uptake of serotonin by the thrombocyte. The uptake of serotonin by blood platelets from Ss with an IQ of less than 50 (as measured by the WISC) was (as in previous studies) significantly lower than that by platelets from Ss with an IQ of 70-110. The abnormality is suggested to be due to the platelets rather than to the plasma. (From PA, 1978, 60 (2), Abstract No. 9495).

300. Sankar, D.V. (1971). Studies on blood platelets, blood enzymes, and leucocyte chromosome breakage in childhood schizophrenia. Behavioral Neuropsychiatry, 2 (11-12), 2-10.

Sankar notes that the uptake of serotonin by blood platelets did not increase in autistic children with increasing CA. Some minor and some significant differences were found between autistic children and non-autistic or non-schizophrenic children in several studies, with respect to lactate dehydrogenase, aldolase, glucose 6-phosphate isomerase and adenosine triphosphatase (AT Pase). AT Pase activity showed significant differences before and after lysising the blood and is thought to indicate red cell membrane differences between autistic and non-autistic children. A higher incidence of chromosome breakage in leucocytes in culture was found in autistic schizophrenic children. It is suggested that these studies indicate biological defects in childhood autistic schizophrenia. (From PA, 1972, 47 (1), Abstract No. 3389).

301. Shearer, T.R., Larson, K., Neuschwander, J. & Gedney, B. (1972). Minerals in the hair and nutrient intake of autistic children. Journal of Autism and Developmental Disorders, 12, 25-34.

The concentrations of calcium, magnesium, zinc, copper, lead, and cadmium were determined in scalp hair samples from groups of autistic and nonautistic children. It was concluded that the children in neither group showed evidence of toxicity or deficiency of the minerals or nutrients studied. (From CDA, 1983, 57 (1-2), Abstract No. 770).

302. Stubbs, E.G., Crawford, M.L., Burger, D.R., & Vandenbark, A.A. (1977). Depressed lymphocyte responsiveness in autistic children. Journal of Autism and Childhood Schizophrenia, 7 (1), 49-55.

With 12 autistic 2-12 year-olds and 13 control

Ss, the cellular immune function was assessed in vitro by phytohemagylutinin (PHA) stimulation of lymphocyte culture. A depressed lymphocyte transformation response to PHA was found in the autistic group when compared to the control group. (From PA, 1978, 59 (1), Abstract No. 1246).

303. Stubbs, G., Litt, M., Lis, E., Jackson, R., Voth, W., Lindberg, A., & Litt, R. (1982). Adenosine deaminase activity decreased in autism. Journal of the American Academy of Child Psychiatry, 21 , 71-74.

Six purine enzymes assayed in autistic subjects were compared to enzyme activity levels in normal, mentally retarded, and cerebral palsied control subjects. Adenosine deaminase demonstrated reduced activity in the autistic subjects compared to the others. (From CDA, 1982, 56 (5-6), Abstract No. 1491).

304. Sullivan, R.C. (1975). Hunches on some biological factors in autism. Journal of Autism and Childhood Schizophrenia, 5 (2), 177-183.

Discussed are the associative characteristics of biological factors (rheumatoid arthritis and celiac disease) in relation to autism. Presented as evidence to support a connection between autism, rheumatoid arthritis, and celiac disease, which includes reports of large doses of niacin improving both arthritis and autistic behavior; and findings that celiac disease, a condition more rare than autism, is almost common among autistic families. Also mentioned is the incidence of nearly normal behavior in autistic children in a feverish state. (Following the paper are two editorial comments.) (From ECEA, 1976, 7 (4), Abstract No. 073569).

305. Sutton, H.E., & Read, J.H. (1958). Abnormal amino acid metabolism in a case suggesting autism. American Journal Dis. Child., 96, 23-28.

Studies with L-tryptophan-loading tests of an 18-month-old girl diagnosed as autistic suggest a decreased ability to metabolize tryptophan via the 5-hydroxyindole pathway to 5-hydroxyindoleacetic acid and also to indolelactic and indoleacetic acids. This is not believed to result from a primary enzymatic block. It is suggested that the mental aberration is a result of an altered ability to maintain normal brain serotonin levels. Loading normal children with L-tryptophan produced increases in urinary 5-hydroxyindoleacetic acid levels, in contrast to other reports that hydroxylation of tryptophan is maximal with normal levels of tryptophan. These results may be associated with the young age of the subjects. (From CDA, 1959, 33 (1-2), Abstract No. 31).

306. Takahashi, S. et al. (1976). Reassessment of elevated serotonin levels in blood platelets in early infantile autism. Jounal of Autism and Childhood Schizophrenia, 6 (4), 317-326.

Blood platelet serotonin content was measured in 30 children (1 to 12 years old) with early infantile autism, as described by Kanner, 30 age matched normal Ss, and 45 children with various neurological and psychiatric disorders. Serotonin content in the autistic group was significantly higher than that for normal children. Autistic children under school age had higher platelet serotonin concentrations than other older autistic individuals. There was little correlation between age and serotonin levels in the normal children. Elevated serotonin was also seen in some of the nonautistic pathological group, who were disturbed and hyperactive. (From ECEA, 1977, 9 (3), Abstract No. 091929).

307. Varley, C., Kolff, C., Trupin, E., & Reichler, R.J. (1980). Hemodialysis as a treatment for infantile autism. Journal of Autism and Developmental Disorders, 10, 399-404.

A course of ten weekly hemodialyses was conducted on a young adult female with infantile autism. No significant changes were noted in her mood, behavior, or cognitive functioning. (From CDA, 1981, 55 (5-6), Abstract No. 1252).

308. Young, J.G., Kavanagh, M.D., Anderson, G.M., Shaywitz, B.A., & Cohen, D.J. (1982). Clinical neurochemistry of autism and associated disorders. Journal of Autism and Developmental Disorders, 12, 147-165.

The fundamental preclinical and clinical studies of serotonin, dopamine, and norepinephrine metabolism related to infantile autism are reviewed, and new studies are suggested as examples of the productive strategies that will illuminate features of the autistic syndrome in the next decade. (From CDA, 1983, 57 (1-2), Abstract No. 784).

309. Young, J., Cohen, D.J., & Roth, J. A. (1978). Association between platelet monoamine oxidase activity and hematocrit in childhood autism. Life Sciences, 23 (8), 797-806.

A strong negative association was found between platelet MAO activity and hemacrit and hemoglobin in twenty-nine 4-21 year-old male autistic children. A non-significant positive relation was found in 15 normal male controls. Although with less strength, platelet MAO activity and hematocrit were also negatively related in other childhood psychiatric patients and in male relatives of autistic children. (From PA, 1980, 63 (1), Abstract No. 3441).

310. Young, J.G. et al. (1979). Decreased 24-hour urinary MHPG in childhood autism. American Journal of Psychiatry, 136 (8), 1055-1057.

Found a decrease in urinary 3-methoxy-4-hydroxyphenethylene glycol (MHPG) in a group of 5 boys (mean age 10.2 yrs) with childhood autism when compared to a control group of 9 normal boys. The authors hypothesize that a possible alteration in central and peripheral noradrenergic function in autistic children might be related to impaired regulation of attention, arousal, and anxiety. (From PA, 1979, 62 (2), Abstract No. 11166).

311. Yuwiler, A et al. (1971). Uptake and efflux of serotonin from platelets of autistic and nonautistic children. Journal of Autism and Childhood Schizophrenia, 5 (2), 83-98.

Examined twelve 3-6 year-old autistic children, fifteen 5.5-11.5 year-old nonautistic hospitalized comparison cases, and 5-12 year-old normal children for in vitro uptake and efflux of serotonin by platelets. Possible environmental and dietary influences were assessed through the hospitalized comparison Ss. No statistically significant differences were found in uptake or efflux between the three groups. Discusses possible methodological consideration which could account for the failure of this study to support previous findings. (From PA, 1977, 57 (1), Abstract No. 1400).

312. Yuwiler, A., Ritvo, E., Bald, D., Kipper, D. & Koper, A. (1971). Examination of circadian rhythmicity of blood serotonin and platelets in autistic and non-autistic children. Journal of Autism and Childhood Schizophrenia, 1 (4), 421-425.

A study was designed to determine whether circadian rhythmicity existed for blood serotonin concentrations and platelet counts in autistic and nonautistic children. Blood samples were drawn from hospitalized children, outpatients, and normal adults at varying times throughout the day and over prolonged periods. Circadian rhythmicity was not observed. The possibility remains that there existed very brief or prolonged rhythms which were not detectable by the methods used. The implications of these results in relation to previous findings on blood serotonin concentrations and platelet counts in autistic and nonautistic children are discussed. (From LLBA, 1972, 6 (2), Abstract No. 7204824).

313. Bird, B.L. et al. (1977). Consideration in the analysis and treatment of dietary effects on behavior: A case study. *Journal of Autism and Childhood Schizophrenia*, *7* (4), 373-382.

In a case study on a 9-year-old retarded boy with autistic behaviors, suspected dietary substances were demonstrated not to be effective influences on the child's behavior. (From CIJE, 1978, Abstract No. EJ179279).

314. DeMyer, M.K., Ward, S.D., & Lintzenich, J. (1968). Comparison of macronutrients in the diets of psychotic and normal children. *Archives of General Psychiatry*, *18* (5), 584-590.

315. O'Banion, D. et al. (1978). Disruptive behavior: A dietary approach. *Journal of Autism and Childhood Schizophrenia*, *8* (3), 325-337.

The effect of particular foods on levels of hyperactivity, uncontrolled laughter, and disruptive behaviors was studied in an 8 year old autistic boy. Data was gathered during four phases: an initial 4 day period during which the child was fed a normal American diet; a 6 day fasting period during which only spring water was allowed; 18 days during which individual foods were presented; and a final phase in which the child was given only foods that had not provoked a reaction in the third phase. Results showed that such foods as wheat, corn, tomatoes, sugar, mushrooms, and dairy products were instrumental in producing behavioral disorders with this child. (From ECEA, 1979, *11* (3), Abstract No. 112103).

316. Abrams, P.S. (1977). An examination of fine motor grasp ability and somatosensory tactile stimulation in normal and autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

Data from a study of the fine motor levels of grasp and somato-sensory tactile stimulation of autistic children lent credence to the hypothesis that autistic children are likely to exhibit a somato-sensory dysfunction that is reflective of an organic neurological disorder. (From ECEA, 1979, 10 (4), Abstract No. 104396).

317. Barnes, D.W. (1977). Sensory integrative dysfunction and the atypical behaviors of autistic and autistic like children: A factorial analysis. University Microfilms International, P.O, Box 1346, Ann Arbor, MI.

Thirty-six autistic and autistic-like children between the ages of 6.8 and 14.2 years were assessed utilizing behavioral and neurological observations and portions of several tests. Results indicated that there were significant relationships between some specific autistic-like behaviors and parameters of sensory integrative dysfunction, suggesting the use of remedial procedures to help normalize higher processes. (From ECEA, 1978, 10 (3), Abstract No. 103149).

318. Barry, R.J., & James, A.L. (1978). Handedness in autistics, retardates, and normals of a wide range. Journal of Autism and Childhood Schizophrenia, 8 (3), 315-323.

Tests of handedness were carried out with 34 autistic children (4 to 18 years old) and with sex-, age-, and IQ-matched retardates and sex- and age-matched normals. There were no significant differences between the groups on frequency of handedness, degree of right hand usage, or degree of dominant hand usage. There was however a significant increase in the variance of dominant hand usage from normals and retardates to autistics. These results were taken to indicate that earlier reports of handedness differences in young autistic children may reflect a developmental lag rather than a specific etiology of autism. (From ECEA, 1979, 11 (2), Abstract No. 2101).

319. Blackstock, E.G. (1978). Cerebral asymmetry and the development of infantile autism. Journal of Autism and Childhood Schiophrenia, 8 (3), 339-353.

The notion that autistic children children process information predominatly by strategies of the right cerebral hemisphere from birth and unless unusual events occur, continue to be right hemisphere processors throughout their lives, is examined. Evidence suggests that cerebral dominance may be present at birth in normal humans, and that for normal humans each hemisphere of the cerebral cortex may be responsible for different kinds of information processing, is presented as the context from which the new model of autistic development emerges. Two preliminary experiments involving listening preferences of autistic and normal Ss (with mean ages ranging from 5 to 10 years) are cited as having tested and supported the hypothesis that the right cerebral hemisphere is more active than the left hemisphere in autistic children. Implications of the model for diagnosis and treatment of autism are presented. (From ECEA, 1979, 11 (2), 177-187).

320. Boucher, J. (1977). Hand preference in autistic children and their parents. Journal of Autism and Childhood Schizophrenia, 7 (2), 177-187.

Hand preference was tested in groups of between 40 and 50 autistic children (6 to 16 years old) and in sex, age, and ability matched controls. Results were also compared with existing findings on normal children. Small differences occurred between the groups in the directions which would be predicted on the assumption that mental subnormality is associated with delayed development of normal patterns of handedness, and on the hypothesis that autistic children as a group will show a persistent slightly increased tendency to use the left hand. Parents of the autistic group were also assessed for handedness. Contrary to the prediction of slightly increased sinistrality in this group, some indication of increased dextrality occurred. (From ECEA, 1978, 10 (1), Abstract No. 100340).

321. Ciaranello, R.D., Vandenberg, S.R., & Anders, T.F. (1982). Intrinsic and extrinsic determinants of neuronal development: Relation to infantile autism. Journal of Autism and Developmental Disorders, 12, 115-145.

In light of knowledge of brain development and some of the suspected causes of the autistic syndrome (maternal rubella), the authors conclude that there are a limited number of developmental loci that could be disrupted and lead to the autistic syndrome. (From CDA, 1983, 57 (1-2), Abstract No. 714).

322. Colby, K.M., & Parkison, C. (1977). Handedness in

autistic children. *Journal of Autism and Childhood Schizophrenia*, *7* (1), 3-9.

A test of handedness in 20 autistic and 25 normal children (2 to 6 years old) revealed marked differences. The frequency of nonright handedness in normal children was 12%, whereas it was 65% in autistic children. It was concluded that the failure to lateralize cerebral functions normally may be an indicator that selected brain damage is the cause of autism. (From ECEA, 1978, *9* (4), Abstract No. 093024).

323. Damasio, A., & Maurer, R. (1978). A neurological model for childhood autism. *Archives of Neurology*, *35* (12), 777-786.

The authors examine the behavioral and motor disturbances in childhood autism. It is proposed that the syndrome results from dysfunction in a system of bilateral neural structures that includes the ring of mesolimbic cortex located in the mesial frontal and temporal lobes, the neostriatum, and the anterior and medial nuclear groups of the thalamus. It is suggested that autism could be related to neuromediator inbalance. (From PA, 1980, *63* (2), Abstract No. 9969).

324. Darby, J.K. (1976). Neuropathologic aspects of psychosis in children. *Journal of Autism and Childhood Schizophrenia*, *6* (4), 339-352.

On the basis of a search of the literature and extensive inquiries to clinicians, cases that contained any information concerning possible neuropathologic changes in cases of childhood autism or psychosis were catalogued. In all, 33 cases were identified. Twenty-nine cases are from the literature; six of these are sibling pairs. Four cases were found by inquiry and have not been reported heretofore. Information on 33 cases is presented along with some tentative suggestions for further research. (From ECEA, 1977, *9* (3), Abstract No. 091931).

325. Dawson, G. (1979). Early infantile autism and cerebral hemisphere specialization. *University Microfilms International*, P.O. Box 1346, Ann Arbor MI 48106.

In two studies involving ten 9 to 34 year olds who had been diagnosed autistic in early childhood, autistic Ss were found to have a significantly greater degree of left hemisphere dysfunction than either a retarded or brain damaged control group, and to exhibit a significantly different pattern of hemispheric specialization than normal controls. It was suggested that the deficit in gestural imitation seen in autistic persons could be related to impaired left hemispheric functioning. (From ECEA, 1980, 12 (3), Abstract No. 123810).

326. Deykin, E.Y., & MacMachon, B. (1979). The incidence of seizures among children with autistic symptoms. American Journal of Psychiatry, 136 (10), 1310-1312.

The incidence of seizures was investigated among 183 children with autistic symptoms. It was found that the age specific incidence rates of seizures in the sample were between 3 and 28 times the rates for children in the general population. Ss classified as totally autistic were at high risk of developing seizures from early childhood well into adolescence, but especially so at puberty. The paritally autistic children had an increased risk of seizures only up to age 10. It is suggested that the incidence of seizures at puberty observed may be specific to children with total autistic symptomatology and may represent a distinct pathological process associated with autism. (From ECER, 1980, 12 (2), Abstract No. 122042).

327. Eaton, L., & Menolascino, F.J. (1967). Psychotic reactions of childhood: A follow-up study. American Journal of Orthopsychiatry, 3 (3), 521-529.

Presents a 5-yr follow-up of 32 psychotic children in which approximately 1/3 were diagnosed as having chronic brain damage with psychosis developings and neurological changes during the 5 years. Progression from initial questionable signs of damage to definite major findings occured in 3 of the cases. EEG changes consistent with diffuse brain damage were found in 3 other cases, two developed seizures and another 3 had onset of neurological signs during this period. A part of this group of brain-damaged children were unusually reactive to stress. Psychosis was easily precipitated for this group and relatively easy to treat. Suggests special implications for treatment of this group. Discusses the need for further investigations of this complex process. (From PA, 1967, 41 (1), Abstract No. 9148).

328. Elliot, G.A. (1977). The effect of "red", "blue-green", and "white" light on electroencephalograms of autistic children.*University Microfilms International*, P.O. Box 1346, Ann Arbor MI 48106.

Differences between 15 autistic and 15 normal children's (mean age 10 years electroencephalograms (EEGs) under several visual stimuli were investigated. Among results were that normal Ss had significantly different EEGs than autistic children, indicating that color may perform a vital function in increasing the level of brain energy in autistic children. (From ECEA, 1978, *10* (3), Abstract No. 103270).

329. Fein, D., Skoff, B., & Mirsky, A.F. (1981). Clinical correlates of brainstem dysfunction in autistic children. *Journal of Autism and Developmental Disorders*, *11*, 303-315.

Autistic children having abnormal and normal brainstem auditory-evoked potentials were compared. Abnormals exhibited greater pathology in attention and social accessibility. No differences were found in language, motor, or perceptual functioning or on previous diagnoses or medical history. (From CDA, 1982, *56* (5-6), Abstract No. 2211).

330. Goodwin, M.S., Cowen, M.A., & Goodwin, T.C. (1971). Malabsorbtion and cerebral dysfunctions: A multivariate and comparative study of autistic children. *Journal of Autism & Childhood Schizophrenia*, *1* (1), 48-62.

Gastrointestinal disorders observed in autistic children prompted a series of related investigations of biological abnormalities. TCDC electrophysiologic recordings, histamine wheal response tests, eosinophile counts, blood cortisol determinations, and behavioral observations involving 15 autistic children were conducted to study several interrelationships, particularly malabsorption and cerebral dysfunction. Control subjects include siblings, other normal children, and normal, schizophrenic and non-schizophrenic adults. Observed differences tended to support approaches that distinguish autism from the large majority of "the schizophrenias". Characteristic "DC bursts" were found in autistic children, suggesting a maturational failure of a brain control system. (From LLBA, 1971, *5* (3), Abstract, No. E03779).

331. Gubbay, S.S., Lobascher, M., & Kingerlee, P. (1970). A neurological appraisal of autistic children: Results of a Western Australian survey. *Developmental Medicine and Child Neurology*, *12* (4), 422-429.

The neurological and electroencephalographic features of 25 autistic children have been reviewed. Fifty-six per cent of the children had unequivocal evidence of organic brain disease and altogether 84% showed evidence to suggest the presence of encephalopathy. All the children were mentally retarded. The experience of other authors is reviewed and these, together with the findings from the present study, lead to the conclusion that the diagnosis of primary autism might only rarely be applicable, whereas a considerably larger proportion of children with a variety of cerebral disorders may manifest autistic features which form the most characteristic aspect of their presentation. (From LLBA, 1971, 5 (1), Abstract No. E0046).

332. Harper, J. (1974). Infantile autism: Subclassification on the basis of neurological impairment. Australian Journal of Mental Retardation, 3 (2), 49-55.

A retrospective study was undertaken of case history data from 131 autistic children (3 to 22-yrs-old) to test the proposition that subclassification based on the presence or absence of positive neurological findings was of prognostic value. The results indicated that the measure was of limited use in defining subclusters of the epidemiological data included in the research. However, data suggested that reproductive complications were a frequent variable in the aetiological histories of the organic group while environmental stresses were associated with the non-organic group. In respect to followup on intellectual functioning and language development, evidence of neurological impairment had no predictive significance. (From ECEA, 1975, 7 (1), Abstract No. 07 0134).

333. Hauser, S. et al. (1975). Pneumographic findings in the infantile autism syndrome: A correlation with temporal lobe disease. Brain, 98, 667-688.

334. Hermelin, B. & O'Connor, N. (1968). Measures of the occipital alpha rhythm in normal, subnormal and autistic children. British Journal of Psychiatry, 114, 603-610.

The presence or absence of alpha waves in EEG recordings from the occipital region has often been regarded as a possible measure of the state of arousal of the organism (Lindsley, 1960). The writers have investigated the effect of visual and auditory stimuli on the alpha rhythm in mongols, autistic children, and normal controls. Autistic children (N=17), 16 mongols, and 12 normals were matched individually for age and tested in order to obtain 10 acceptable records for each group. The criterion for acceptance was the presence of 35% alpha waves in the record over a period of 2 minutes in a quiet dark room. The children were exposed to 6 separate conditions in succession. Each condition - darkness, light signals, continuous light, darkness, sound signals, continuous sound and darkness - lasted 2 minutes. Telemetered EEG was recorded throughout. The order of light and sound was varied alternately. Response to light signals and continous light did not differentiate the groups. However, when the light stimuli were repeated, the autistic children adapted more quickly than the other two groups. While there was no difference in responsiveness to continuous as compared with intermittent light, all Ss responded less to continuous sound than to repeated short-duration and sound signals. Also, in contrast to the visual stimulation condition, no adaptation to sound, whether intermittent or continuous, occurred. Continuous auditory stimulation differed less from continous light in the autistic than in the other groups. Thus the autistic children were relatively more aroused by continuous sound than the children in the other two groups. This finding would appear to be in contrast with the reported behavior of autistic children. (From LLBA, 1969, 43 (3-4), Abstract No. 550).

335. Hetzler, B.E. (1981). Infantile autism and the temporal lobe of the brain. Journal of Autism and Developmental Disorders, 11, 317-330.

Studies were reviewed that support the hypothesis that infantile autism results from a neuropathology of the temporal lobes of the brain. The main autistic symptoms are most consistent with a neurological model involving bilateral dysfunction of the temporal lobes.(From CDA, 1982, 56 (5-6), Abstract No. 2226).

336. Hier, D.B. et al. (1979). Autism and unfavorable left-right asymmetries of the brain. Journal of Autism and Developmental Disorders, 9 (2), 153-159.

Utilizing computerized brain tomography, left-right morphologic asymmetries of the parietoccipital region were judged in 16 autistic patients (7 to 27 years old), 44 mentally retarded patients, and 100 miscellaneous neurological patients. In 57% of the autistic patients the right parietoccipital region was wider than the left, while this pattern of cerebral asymmetry was found in only 23% of the mentally retarded patients and 25% of the neurological patients. It was suggested that unfavorable morphologic asymmetries of the brain near the posterior language zone may contribute to the difficulties autistic children experience in acquiring language. (From ECEA, 1980, 12 (1), Abstract No. 12 0146).

337. Hutt, S.J., Hutt, C., Lee, D., & Ounsted, C. (1965). A behavioral and electroencephalographic study of autistic children. Journal of Psychiatric Research, 3 (3), 181-197.

Presents short biographies of 10 children, ages 3-6 years, diagnosed as suffering from Kanner's Syndrome (early infantile autism). The free-field activities of these children were analyzed and compared with a group of normal children of similar age. EEG studies in all 10 children showed a common low voltage irregular activity without any established rhythms in 8 of the children, irregular alpha activity in 1 child and unstable theta activity in another. It was suggested that autistic children are in a chronically high state of physiological arousal. (From PA, 1966, 40 (1), Abstract No. 6833).

338. Johannsen, H.S. (1971). Elimination of movement artifacts in evoked response audiometry in infants. The Journal of Auditory Research, 11 (4), 351-356.

Motor restlessness of patients, mostly autistic infants, which must be dealt with in a clinical routine EEG audiometry makes the method difficult or possibly even impossible. Besides the use of sedatives, it is necessary to employ technical processes for the elimination or reduction of movement artifacts. The elimination of disturbances caused by muscle contraction by narrowing the frequency range of the EEG preamplifier is dealt with. Those upper and lower cutoff frequencies which do not lead to the deformation or diminution of the acoustically evoked response were determined; these were 13.6 Hz And 1.6 Hs, respectively. (From LLBA, 1974, 8, Abstract No. 7401627).

339. Kolvin, I., Oounsted, C., & Roth, M. (1971). Cerebral dysfunction and childhood psychoses. British Journal of Psychiatry, 118, 407-414.

340. Lelord, G.; Laffont, F.; Jusseaume, P; & Stephant, J.L. (1973). Comparative study of conditioning of averaged evoked responses by coupling sound and light in normal and autistic children. Psychophysiology, 10 (4), 415-425.

A comparison of the conditioning of averaged evoked potentials in 11 psychotic and 11 normal children (57 experiments). Evoked potentials, like the blocking of alpha rhythm, can be conditioned by coupling a short sound of low intensity with an intense light flash. In normal children, the amplitude of the potential evoked by sound at the occipital region is small and quite variable. Its amplitude increases and its variability diminishes after coupling of sound and light. Also, its form may resemble the potential evoked by light, especially in its rhythmic aftereffects. In psychotic children, auditory evoked responses are variable and small and remain so during the coupling of sound and light. Instead, these patients respond to the sound with a late slow wave which is strong and generalized. It is particularly prominent during conditioning and resembles the slow waves which follow the visual evoked potentials in these autistic children. This slow wave can be experimentally reproduced in normal Ss by Psilocybine. It also resembles in certain ways the slow waves provoked by movement or its anticipation in normal Ss, but it appears here during sensorial conditioning which requires no movement. This slow wave may reflect a diffuse motor component in the perceptual and associative processes of these autistic children. (From LLBA, 1973, 7, Abstract No. 7304503).

341. Martinius, J. (1974). The neurophsychological approach to early infantile autism. (Germ). Zeitschrift fur Kinder- und Jugendpsychiatrie, 2 (3), 187-199.

Martinius notes that neuropsychological research in autism has been based on two hypothetical aspects: a disturbance of central arousal and a disturbance of cognitive processes. A review of previous reports and earlier literature shows that the EEG of autistic children are predominately high frequency beta waves and evoked potentials are weaker in autistic children than in normals. The author notes that autistic children have difficulty processing visual auditory language and show an interference with visual perception. (From PA, 1979, 61 (1), Abstract No. 3760).

342. Maurer, R.G., & Damasio, A.R. (1982). Childhood autism from the point of view of behavioral neurology. Journal of Autism and Developmental Disorders, 12, 195-205.

Manifestations of childhood autism correlate best with the manifestations of dysfunction in the frontal tier of the ring of phylogenetically older cortex located on the mesial surface of the frontal and temporal lobes ("mesocortex" or "mesolimbic cortex") and with the manifestations of dysfunction in the striatum. (From CDA, 1983, 57 (1-2), Abstract No. 754).

343. McCann, B.S. (1981). Hemispheric asymmetries and early infantile autism. Journal of Autism and Developmental Disorders, 11 (4), 401-411.

The observation that language disorders constitute a major symptom of early infantile autism has led some researchers to speculate that the autistic syndrome may be a result of brain damage to the left hemisphere. Such speculation has fostered a number of studies in which attempts have been made to link autism with ostensibly positive signs of left hemisphere damage, such as left-handedness and preference for "right hemispere" functional and cognitive activities. In the present review, contributions to this area are systematically reviewed. Studies attempting to demonstrate that an unusually high incidence of left-handedness occurs in autistic samples are examined. Functional and morphological studies examining patterns of asymmetry in autistic samples are reviewed. It is shown that most studies of handedness fail to account adequately for the role that age of subjects may play in the manifestation of left-handedness. A simple cause-and-effect model of abnormal cerebral asymmetry and autism is rejected in favor of a more integrative yet parsimonious model that specifically attempts to explain the language disorder common to autism. (From ECEA, 1982, 14 (2), Abstract No. 141295).

344. Ornitz, E.M., Ritvo, E.R., & Walter, R.D. (1965). Dreaming sleep in autistic and schizophrenic children. American Journal of Psychiatry, 122 (4), 419-424.

Studied sleep patterns of 7 psychotic children (autistic or schizophrenic) and 6 nonpsychotic children, during total nights of spontaneous sleep. The authors recorded their EEG, eye movements, heart rate, heart rate irregularity, and ubmandibular muscle potential. The psychotic children showed a similar patterning and percentage of sleep time spent dreaming as non psychotic Ss. Several components of the dreaming sleep state were found to be concurrent, including a decreased submandibular muscle tone and increased heart rate and heart rate irregularity in conjunction with conjugated REM's during a Stage 1 EEG. They did not display any EEG abnormalities indicative of cerebral dysrhythmia. (From PA, 1966, 40 (1), Abstract No. 3208).

345. Ornitz, E.M., Forsythe, A.B., & de las Pena, A. (1973). Effect of vestibular and auditory stimulation on the REMs and REM sleep in autistic children. Archives of General Psychiatry 29 (6), 786-791.

A report of a study of the influence of vestibular and auditory stimulation on the occulomotor output during rapid eye movement (REM) sleep in both normal and autistic children. One measure of the ocular activity from the entire night which measured the degree of REM clustering without reference to REM sleep time was significantly smaller for the autistic than for the normal children under the influence of vestibular stimulation. The duration and organization of the REM bursts significantly increased during the course of the night in the normal children in response to the vestibular stimulation and showed no response during the course of the night in the autistic children. The induced changes are manifestations of a specific effect on the phasic activity of REM sleep since no changes in the percent of REM sleep time or the nocturnal sleep cycle occurred. (From LLBA, 1974, 8 (1), Abstract No. 7403080).

346. Ornitz, E.. M. (1970). Vestibular dysfunction in schizophrenia and childhood autism. Comprehensive Psychiatry, 11(2), 159-173.

Ornitz notes that central vestibular mechanisms play a basic role in the pathogenisis of schizophrenia and childhood autism. Vestibular dysfunction during REM sleep and waking are the suggested cause of disturbances of perception and mobility occuring in schizophrenic adults and autistic children. (From PA, 1971, 45, Abstract No. 6718).

347. Ornitz, E.M., et al. (1969). The EEG and rapid eye movements during REM sleep in normal and autistic children. Electro-encephalography & Clinical Neurophysiology, 26 (2), 167-175.

The author studied EEG, synchronous slow wave EEG activity, and eye movement activity during REM sleep in 8 autistic and 6 normal children, mean age-36 months. Discovered that the autistic Ss displayed a significantly greater amount of 10.5-15cps activity along with a reduced number of single eye movements and percent time of eye movement burst activity. Both groups displayed considerable synchronous slow wave activity. It is suggested that a deficient or inhibited control vestibular function underly the depressed eye movement burst activity in the autistic Ss. The impairment of an organizing influence underlying integration of cortical and oculomotor activity is further suggested as the basis for the reduced quantitative association between the synchronous slow waves and the eye movement bursts. Maturational factors may be related to these neurophysiologic abnormalities, in the autistic Ss, as implied by the persistence of 10.5-15 cps frequencies in the REM sleep EEG and the tendency to approach more normal values with increasing age. (From PA, 1970, 44 (2), Abstract No. 12972).

348. Ornitz, E.M., Ritvo, E.R., Panman, L.M., Lee, Y.H., Carr, E.M., and Walter, R.D. (1968). The auditory

evoked response in normal and autistic children during sleep . Electroenceph. Clin. Neurophysiol.,25 (3), 221-230.

The auditory averaged evoked response (AER) was measured at the vertex in age-matched groups of normal and autistic children during stage 2 and REM sleep. Amplitudes and latencies of wave N2 of the auditory AER were compared during these different sleep stages. In a group of 16 autistic children under 5 yr 1 mos the relative amplitude of wave N2 during REM sleep was significantly greater than in a group of 16 normal children. In a group of 17 autistic children under 61 mos old, the relative amplitude of wave N2 during the eye movement bursts was greater than that measured in a group of 18 normal children. In a group of 10 normal children under 61 mos old, there was no appreciable difference between wave N amplitudes obtained during the ocular quiescent phase of REM sleep and stage two sleep. A group of 11 autistic children showed significantly larger relative amplitudes of wave N2 during both the ocular quiescent and the eye movement burst phases of REM sleep than did the group of 10 normal children. The finding that relative reduction of response amplitude during REM sleep in normals is confined to the eye movement burst phase is related to the concept of phasic inhibition distinct from tonic inhibition during REM sleep. The overriding of phasic inhibition in the autistic children is related to clinical observations suggesting vestibular dysfunction and faulty registration of the significance of sensory input. (From LLBA, 1969, 3 (1)).

349. Ornitz, E.M. (1965). Dreaming sleep in autistic twins. Archives of General Psychiatry, 12, P77-79.

350. Ornitz, E.M., et. al. (1974). The recovery cycle of the averaged auditory evoked response during sleep in autistic children. Elecroencephalography & Clinical Neurophysiology, 37 (2), 173-174.

Ornitz examined the recovery cycle of the averaged auditory evoked response (AER) during sleep in 28 autistic and 23 normal 22-68 mo. old children. The author measured the amplitudes and latencies of wave N2 of the 1st reponse (R1) and the second response (R2) to pair clicks. A comparison of the autistic and normal children showed no significant differences in the recovery ratio (R2:R1) of Stage 2 or REM sleep at within-pair stimuli separations of 250, 160, 80 and 40 msec. (From PA, 1975, 53 (1), Abstract No. 3333).

351. Ornitz, E.M., & Ritvo, E.R. (1968). Neurophysiologic mechanisms underlying perceptual inconstancy in autistic and schizophrenic children.

Archives of General Psychiatry, 22-27.

The authors present evidence from neurophysiologic studies showing that REM sleep is composed of a state of tonic inhibition punctuated by episodes of phasic excitation and inhibition. These states are normally coupled and mutually self-regulating. Pathologic involvement of central vestibular mechanisms are suggested by neurophysiologic studies which implicate a disruption of the normal equilibrium between these states in young autistic children. Behavioral states of hyperexcitation and inhibition have been recorded in autistic children. It is suggested that these behavioral states may result from a pathologic uncoupling and disruptive breaking into waking life of the phasic excitatory and inhibitory influences of the neurophysicologic substratum of dreaming known as REM sleep. This hypothesis may be applicable to some adult schizophrenic reactions based on the developmental relationship between early infantile autism and schizophrenia. (From PA, 1968, *42* (2), Abstract No. 19089).

352. Ornitz, E.M., Ritvo, E. R., Siversten, B. & Wilson, C. (1972). The effect of stimulus interval on the auditory evoked response during sleep in autistic children. *Journal of Autism and Childhood Schizophrenia*, *2* (2), *140-150*.

The averaged auditory evoked response to pairs of clicks separated by a 500 msec intrapair interval was measured in 10 autistic children, eight boys and two girls, during Stage Two and REM sleep. The long interval between paired clicks varied from 2 to 6.5 sec. Lengthening the interpair interval significantly increased amplitudes of responses to both clicks of each pair during Stage Two and to the first during REM. With no effect during Stage Two, it significantly increased the response latency to the second click during REM. Such lengthening did not affect the amplitude recovery ratio during Stage Two or REM, nor the latency recovery ratio in Stage Two, while increasing the latter during REM. It induced significantly greater increase in the latency ratio in autistic than in age-matched normal children during REM. However, no difference was noted in recovery ratio between autistic and normal children at either interpair stimulus interval. (From LLBA, 1973, *7* (1), Abstract No. 7301449).

353. Otuski, N. et al. (1977). Electroencephalographic follow-up on autistic children. (Japan). *Japanese Journal of Child Psychiatry*, *18* (5), 321-329.

Presents a year follow-up EEG study of 20 children, aged 3-10 years at 1st examination, with autistic symptoms.

First examinations showed 8 S's to have abnormal EEG patterns and this number increased to 13 in later examinations, indicating that EEG irregularities increased as the subjects grow older. The pathological processes in the brain related to autistic symptoms were indicated, by the results, to included difficulties in human relationships, retarded speech, and stereotyped behavior. However, clear-cut evidence of a relationship between EEG patterns and clinical symptoms were not found. (From PA, 1980, 64 (2), Abstract No. 12655).

354. Rosenblum, S.M., Arick, J., Krug, D.A., Stubbs, E.G, Young, N.B., & Pelson, R.O. (1980). Auditory brainstem evoked responses in autistic children. Journal of Autism and Developmental Disorders, 10, 215-225.

The brainstem evoked response of autistic children was remarkable for showing increased latency and markedly increased variability. (From CDA, 1981, 55 (3-4), Abstract No. 524).

355. Small, J.G., et al. (1971). CNV responses of autistic and normal children. Journal of Autism and Childhood Schizophrenia, 1, (2), 215-231.

Described is an experiment in which slow potential responses of five autistic children and five age-matched normal controls were elicited. DC recording of scalp activity was accomplished during presentation of flash and click stimuli followed by photos of the subjects, their mothers, and adult and child strangers. Negative amplitude shifts with stimulation occurred in both groups of children, more when the pictures invariably followed the sensory stimuli than when presented intermittently. The DC responses of autistic subjects did not vary with the content of the pictures. The normal children showed significant differences in negative potential activity related to whether the pictures were familiar to them or not with most negative responses associated with pictures of adult strangers. Both autistics and normals displayed characteristic waveforms or DC response configurations under most experimental conditions. The results are discussed in terms of theoretical constructs regarding early infantile autism. Directions for future experimentation are suggested. (From ECEA, 1972, 3 (4), Abstract No. 032597).

356. Sohmer, H. & Student, M. (1978). Auditory nerve and brain-stem evoked response in normal, autistic, minimal brain dysfunction and psychomotor retarded children. Electroencephalography & Clinical Neurophysiology, 44 (3), 380-388.

The authors note that, in several forms of abnormal behavior in infants and children, the cause is either uncertain or an unspecified organic brain lesion is assumed to be present. Therefore, they recorded evoked average auditory nerve (AN) and brainstem (BS) responses to click stimuli in eighteen 4-10 yr-old normal, thirteen 4-12-yr-old autistic, sixteen 3-11 yr-old minimal brain dysfunction (MBD), and ten 2-8 year old psychomotor-retarded (PR) children. Records were made from experimental Ss under various conditions of being awake, asleep and some were in sedated sleep; no change was seen in the response traces. Several autistic Ss displayed no electrophysiological responses indicating a profound hearing loss. Responses from the region of the interior colliculus were absent in several of the PR Ss. AN and BS responses were recorded with normal response thresholds but longer-than-normal AN latencies, in several of the PR Ss. (From PA, 1979, 62 (1), Abstract No. 6112).

357. Student, M., & Sohmer, H. (1978). Evidence from auditory nerve and brainstem evoked responses for an organic brain lesion in children with autistic traits. Journal of Autism and Childhood Schizophrenia, 8 (1), 13-20.

In an attempt to resolve the question as to whether children with autistic traits have an organic nervous system lesion, auditory nerve and brainstem evoked responses were recorded in a group of 15 children (4 to 12 years old) with autistic traits. (From CIJE, 1978, Abstract No. EJ 184839).

358. Talbott, R. E. (1979). Electrophysiologic measurement in neural processing disorders: Application of auditory brainstem response techniques. Diagnostique, 5 (1), 23-28.

The application of electrophysiologic measurement techniques in the study of mental retardation, autism, and other disorders previously considered "behavioral" or "psychological" is discussed. A description of the previous research using auditory brain stem response measurement with these cases is presented and the implications for future research are examined. (From ECER, 1980, 12, Abstract No. 122480).

359. Tanguay, P. et al. (1982). Auditory brainstem evoked responses in autistic children. Archives of General Psychiatry, 39, 174-180.

360. Tanguay, P.E. et al. (1976). Rapid eye movement (REM)

activity in normal and autistic children during REM sleep. Journal of Autism and Childhood Schizophrenia, 6(3), 275-288.

Thirty normal children (aged 3 to 68 months) and 16 autistic children (aged 36 to 62 months) were recorded during nonmedicated sleep, and data pertaining to rapid eye movements (REM) were measured during the first three REM periods of the night. When time of night from which data were gathered was held constant, normal children showed a significant relationship between age and the organization of eye movements into discrete bursts. When autistic children were compared to age matched normal controls, they showed an immaturity in this phenomena, their results being similar to those found in children less than 18 months of age. (From ECEA, 1977, 9 (2), Abstract No. 091264).

361. Tanguay, P.E., & Edwards, R.M. (1982). Electrophysiological studies of autism: The whisper of bang. Journal of Autism and Developmental Disorders, 12 177-184.

Current studies point to the possibility that some autistic children may have dysfunction of neural systems in the brainstem. One interpretation of these findings is that such abnormalities, occurring during a critical phase of early postnatal development, might themselves have acted directly as neuropathological agents, adversely influencing developing forebrain systems. (From CDA, 1983, 57, (1-2), Abstract No. 777).

362. Waldo, M.C. et al. (1978). EEG profiles of neuropsychiatrically disturbed children. Journal of the American Academy of Child Psychiatry, 17 (4), 656-670.

The electroencephalograms (EEG's) of 119 children with neuropsychiatric disorders, including childhood autism, aphasia, schizophrenia, and Tourette syndrome were examined. It was possible to discriminate between select populations on the basis of clusters of EEG findings, despite overall similarity on the normal-abnormal dimension. Examination of individual EEG parameters and sex differences suggested different pathways to similar behavioral phenotypes. Findings indicated that EEG profiles may be related to differential patterns of disorganization of cerebral functioning in child psychiatric populations. (From ECEA, 1979, 11 (3), Abstract No. 113630).

363. Wetherby, A., Koegel, R.L., & Mendel, M. (1981). Central auditory dysfunction in echolalic autistic individuals. Journal of Speech and Hearing Research 24 420-429.

The results showed that all the subjects had normal hearing on the monaural speech tests; however, there was indication of central auditory nervous system dysfunction in the language-dominant hemisphere, inferred from the dichotic tests, for those subjects displaying echolalia. (From CDA, 1982, 56 (5-6), Abstract No. 1753).

364. Yamauchi, Toshio et al. (1977). Electroencephalographic studies of child psychosis. (Japan). Japanese Journal of Child Psychiatry, 18 (2), 72-80.

The authors examined EEG patterns of three clinical groups of outpatients, including 147 autistic, 104 speech retarded, and 79 behavior disordered children. 13.2% of the autistic, 38.5% of the speech retarded, and 41.8% of the behavior disordered Ss showed EEG abnormalities. Although no clear characteristic findings were obtained in any of the clinical groups, EEG spike or sharp wave activity was more frequently observed than spike and wave, or positive spike, high voltage slow activity. Both the EEG abnormal group and the normal group had seizures and no significant correlations were found between EEG abnormalities and seizures. Perinatal disturbances were common in nearly half of the Ss but no association with abnormalities could be drawn. (From PA, 1977, 65 (1), Abstract No. 3464).

365. Yamazaki, Kosuke et al. (1975). An application of neuroendocrinological studies in autistic children and Heller's syndrome. Journal of Autism and Childhood Schizophrenia, 5 (4), 323-332.

The response of plasma 11-hydrosxycorticosteroids (11-OHCS) to pyrogen (.005 uglkg,iv) as well as the circadian rhythm of plasma 11-OHCS levels was investigated in 7 autistic 6-10 yr olds and in two 4-5 year-olds with Heller's syndrome. In autistic Ss the results showed their stress response, which is acquired in an earlier stage of development, to be adequately sustained. The circadian rhythm, however, seems to appear at a later stage with the maturity of the CNS, and frequently revealed abnormal patterns. Similar findings--indicating organic changes in the brain-were found in Heller's syndrome cases. Therefore, the author's suggest that in early infantile autism, there exists some functional changes in the CNS that show a close correlation to the regulatory mechanisms of ACTH secretion. (From PA, 1979, 62 (2), Abstract No. 14204).

366. Young, J.G. et al. (1977). Childhood autism. Cerebrospinal fluid examination and immunoglobulin levels. Journal of the American Academy ofChild Psychiatry, 16 (1), 174-179.

The cerebrospinal fluid (CSF) of 15 children (3 to 9 years old) afflicted with primary childhood autism was examined. There were no abnormalities of glucose, protein, cells, or folate. The study offered no support for the hypothesis that slow viruses may play a role in the etiology of adult schizophrenia. (From ECEA, 1978, 10 (2), Abstract No. 101687).

367. Ando, H. & Yoshimura, I. (1978). Physical development milestones of autistic and mentally retarded children. (Japn). Japanese Journal of Child Psychiatry, 19 (2), 101-106.

The authors studied 57 male autistic and 113 male nonorganic mentally retarded children. They found no significant differences between the two groups in terms of birth weight and neither of the groups showed significant differences in birth weights from the male children of the general population. The mentally retarded Ss first unaided walking was significantly delayed more than that of the autistic Ss. The authors suggest that autistic children have relatively good developmental milestones in early infancy and poor motor skills when they reach school age. (From PA, 1980, 64 (2), Abstract No. 12568).

368. Campbell, M. et al. (1978). Minor physical anomalies in young psychotic children. American Journal of Psychiatry, 135 (5), 573-575.

Examined were three groups of children (1 to 14 years old) for minor physical anomalies: 52 autistic children, 34 non-autistic siblings of these patients, and 29 normal controls. The total number of anomalies and the weighted score were significantly higher in the autistic children. It was concluded that the formation of these anomalies in the first three months of fetal life may concur with the developmental deviation of the central nervous system in some of these individuals. (From ECEA, 2978, 10 (3), Abstract No. 102474).

369. Campbell, M., Petti, M., Green, W., Cohen, I., Genieser, N., & David, R. (1980). Some physical parameters of young autistic children. Journal of the American Academy of Child Psychiatry, 19, 193-212.

370. Frith, U. & Frith, D. (1974). Specific motor disabilities in Down's Syndrome. Journal of Child Psychology & Psychiatry & Allied Disciplines, 15 (4), 293-301.

The authors compared test results of 2 simple motor tasks (pursuit rotor tracking and finger tapping) between 17 Down's syndrome, 19 severely subnormal autistic, and 23 normal children. Down's Syndrome was hypothesized to be associated with specific difficulties in using long-term motor programs and that mongoloid children may, therefore, be dependent on simple feedback processes to perform motor tasks. Although the groups were matched on initial tracking performance, Down's syndrome children failed to show any improvement after a 5 minute rest, while both comparison groups improved markely. Down's Syndrome children were abnormally slow on the finger tapping task when compared to the other groups. These deficits cannot be accounted for by the level of mental development or the degree of mental retardation. (From PA, 1975, 53 (2), Abstract No. 9763).

371. Hartin, P.J., & Barry, R.J. (1979). A comparative dermatoglyphic study of autistic, retarded, and normal children. Journal of Autism and Developmental Disorders, 9 (3), 233-246.

Dermatoglyphic comparisons were made among 32 autistic children aged from 4-10 to 18-11; sex-, age-, and IQ-matched retarded children; and sex- and age-matched normal children. Significant differences were found between the autistic and normal children for distribution of dermal patterns and ridge line disruption, but no significant differences were found for the total mean ridge count or mean ridge count rankings. Apart from the right hand of the autistic children, there were no unusual scores for digital dispersion ratios. Autistic and retarded children differed only in their distribution of dermal patterns, with the autistic children apparently intermediate between retarded and normal groups. These results indicated that conclusions of unique congenital disturbance in the etiology of autism inferred from different dermatoglyphics may be ineffective in delineating autistic children from other atypical populations. (From ECEA. 1980, 12 (2), Abstract No. 121297).

372. Links, P., Stockwell, M., Abichandan, F., & Simeon, J. (1980). Minor physical anomalies in childhood autism. Part 1. Their relationship to pre-and perinatal complications. Journal of Autism and Developmental Disorders, 10, 273-285.

Probands and their siblings were subjects. While there was an association between autism on one hand and minor physical anomalies and pregnancy complications on the other, no association was found between physical anomalies and pregnancy and birth complications. (From CDA, 1981, 55 (1-2), Abstract No. 20).

373. Weber, D. (1978). "Toe-walking" in children with early childhood autism. International Journal of Child Psychiatry, 43 (2-3), 73-83.

"Toe-walking" (or forefoot walking) can be observed not only in children with pyramidal symptomatology but also in children with early childhood autism and other developmental disabilities, and even in normal children during the period of learning to walk. Findings confirm the assumption that this foot posture arises from the fixation of a normal transient stage of development and that it occurs very frequently in autistic children. (From ECEA, 1979, 11 (1), Abstract No. 110715).

374. Bryson, C.Q. (1970). Systematic identification of perceptual disabilities in autistic children. Perceptual and Motor Skills, 31 (1), 239-246.

Matching-to-sample tasks were used to test the ability of six autistic children to make visual, vocal, and fine motor responses in response to visual and auditory stimuli. The results indicated that: the testing method was appropriate for low-functioning children; the group was heterogeneous with respect to perceptual deficits; and fine motor performance was poor. The data suggest that a basic difficulty in infantile autism may not be an avoidance of auditory and visual stimuli per se but rather a deficit in ability to make cross-modal associations. It is further suggested that the testing method would be useful for constructing profiles of perceptual disabilities with many types of low-functioning children. (From LLBA, 1971, 5 (1), Abstract No. E00232).

375. Chase, J.B. (1974). A retrospective study of retrolental fibroplasia. New Outlook for the Blind, 68 (2), 61-71.

The relationship between retrolental fibroplasia (RLF) caused by high oxygen levels during incubation, and severe affect disturbances (often simulating autism) was investigated through the collection and analysis of data concerning 263 Ss born between 1939 and 1959 and blinded by RLF. The variables examined included prematurity (birth weight and length of gestation), duration and intensity of oxygenation, environmental conditions (sensory and maternal deprivation), the administration of medical agents, and characteristics of the parents (socio-economic status, intellectual level, emotional reactivity, and religious/ethnic lineage). Autistic symtomatology was found to be correlated with high birth weight (rather than low, as expected), long gestation (but also extreme prematurity), and parental intellectuality, but not with the other variables. Supplementary findings revealed that the extent of autistic symptomatology was correlated with the results of neurological examinations and the date of birth. (From ECEA, 1974, 6 (2), Abstract No. 061068).

376. Frith, U. & Hermelin, B. (1969). The role of visual and motor cues for normal, subnormal, and autistic children. Journal of Child Psychology & Psychiatry, 10, 153-163.

377. Fulkerson, S.C., & Freeman, W.M. (1980). Perceptual-motor deficiency in autistic children. Perceptual and Motor Skills, 50 (1), 331-336.

Fifteen autistic children (7 to 13 years old) were matched with normals on the Beery-Buktenica Developmental Test of Visual-motor Integration. The two groups were subsequently compared on ability to (1) increase geometric figure copying performance using additional information provided during subsequent trials, (2) make figure-ground resolutions, (3) perform a fine motor integration task, and (4) cope with background interference while responding on the Developmental Test of Visual-motor Integration. The primary deficit observed in the autistic Ss appeared to be defective monitoring of the motor response. (From ECEA, 1980, 12 (3), Abstract No. 123561).

378. Holmes, D.L. (1976). Object-quality discrimination facilitation through the haptic modality in autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

From data on 14 autistic children (mean mental age of 2.75 years) and 14 normal children (mean mental age of 2.80 years) it was concluded that there are no significant differences between MA matched autistic and normal Ss on a visual color discrimination task or on a visuohaptic color discrimination task. (From ECEA, 1978, 9 (4), Abstract No. 093521).

379. Honjo, S. (1981). A study of saccadic eye movement in monosygotic twins discordant for infantile autism. Journal of Child and Adolescent Psychiatry, 22, 258-269.

The electrooculographic records of the autistic twin and the normal twin were characteristic of autistic and mentally retarded children in that their saccadic eye movement did not respond well to on-off stimulations of short duration. (From CDA, 1982, 56 (5-6), Abstract No. 2227).

380. Kovattana, P.M., & Kraemer, H.C. (1974). Response to multiple visual cues of color, size, and form by autistic children. Journal of Autism and Childhood Schizophrenia, 4 (3), 251-261.

A study of visual discrimination learning is described comparing 20 autistic children with 20 suffering Down's syndrome and 20 normal controls. The Ss, all boys, were trained to discriminate between two visual stimuli varying in color, form, and size. They were then tested on the three parameters presented separately and in combinations of two. Normal children and those who were classified as verbally autistic did not differ in overall performance or in the effective use of double cues, but were superior to retardates, and retardates were superior to nonverbal autistic children. There was no cue dominance in normal, verbally autistic, and retarded children, but size and color were significantly preferred to form by the nonverbal autistic group.(From LLBA, 1975, 9 (1), Abstract No. 7504193).

381. Mosher, R.E. (1981). Perceptual-motor programs for autistic children: Guidelines for implementation. B.C. Journal of Special Education, 5 (1), 13-22.

Guidelines are discussed regarding the development and implementation of perceptual motor programs for autistic children. Among suggestions offered are to choose reasonable objectives, use movement to develop child-therapist rapport, emphasize the elements of transfer, use the kinesthetic approach and make use of teachable moments. (From CIJE, 1981, Abstract No. EJ247178).

382. Ornitz, E. (1969). Disorders of perception common to early infantile autism and schizophrenia. Comprehensive Psychiatry, 10 (4), 259-274.

Ornitz notes that reports on clinical, psychological, and neurophysiological investigations have suggested that a breakdown of the homeostatic regulation of sensory input occurs in early infantile autism and in schizophrenia. The author reviews and evaluates these studies upon which he concludes that perception is profoundly disturbed in both autistic children and schizophrenic adults. He reports that this perceptual dysfunction may be common to and underlie the divergent clinical pathology present in these conditions. (From PA, 1970, 44 (2), Abstract No. 14972).

383. Ornitz, E.M. (1974). Effect of visual input on vestibular nystagmus in autistic children. Archives of General Psychiatry, 31, 369-375.

A stimulus to oculomotor fixation in the absence of light and a retinal stimulation in the absence of ocular fixation caused greater suppression of prostrotatory nystagmus in autistic children than in normals. (From CDA, 1977, 51 (3-4), Abstract No. 707).

384. Ritvo, E.R., et al. (1969). Decreased postrotatory nystagmus in early infantile autism. Neurology, 19 (7), 653-658.

Studied children with early infantile autism and evidence of perceptual inconstancy. Found these children had significantly shorter postrotatory nystagmus than normal children when tested with their eyes open in a lighted room, however, no significant difference was found in the Ss when blindfolded and tested in a dark room. These findings were not influenced by the levels of personality development. The assumption that children who demonstrate evidence of perceptual inconstancy most likely have a unitary disease process, is supported by the results of this study. Of particular significance is the fact that the differences from normal children occurred when there were competing stimuli (visual and vestibular input), in contrast to the situation with vestibular stimulation alone. Neither group displayed evidence of habituation. Clinical factors such as mutism, echolalie, normal speech, or thought disorders did not appear to be discriminatory amog the patients. (From PA, 1971, 46 (1), Abstract No. 1559).

385. Schechter, M.D., Shurley, J.T., Sexauer, J.D., & Toussieng, P.W. (1969). Perceptual isolation therapy: A new experimental approach in the treatment of children using infantile autistic defenses: A preliminary report. Journal of the American Academy of Child Psychiatry, 8 (1), 97-139.

Autism is seen as a defense stance against incoming stimuli experienced as overwhelming or noxious. Describes the structure and use of a procedure which obviates the need for this defense system. A perceptual isolation therapy is described in terms of its course, outcome, and follow-up on three 5 year-old boys using extreme autistic defenses.(From PA, 1970, 44 (1), Abstract No. 24870).

386. Sogame, S. & Kubo, Y. (1978). Directional dyslexia in autistic children.Japanese Journal of Child Psychiatry, 19 (5), 290-298.

The authors review S. Sogame's theory that the occurance or word dyxlexia depends on a specific direction of sequential arrangement of letters and examines Sogame's research on directional dyslexia. Directional dyslexia is divided by Sogame into 2 kinds: horizontal and vertical. The authors discuss the use of the division in comparative and transcultural research on dyslexia. (From PA, 1980, 64 (2), Abstract No. 12596).

387. Streff, J.W. (1975). Optometric care for a child manifesting qualities of autism. Journal of the American Optometric Association, 46 (6), 592-597.

Describes the case history of a sickly 4.75 year-old male esotrope diagnosed as autistic. The case study notes the child's behavior during the initial and several follow-up interviews and discusses some personality development over a period of a year. Prismatic rectification of the esotropia and prescription of spherical lenses corrective of mild hyperopia were included in the optometric care of the child. However, he still seemed autistic and limited in his visual sampling of distant objects when last interviewed. Persistent improvements initiated and maintained during the case study included binocular functioning, rudimentary personal interrelationships, and increased attention span. (From PA, 1976, 56 (1), Abstract No. 4546).

388. Weber, D. (1973). Sensorial disturbances in the genesis of early infantile autism (Germ). Acta Paedopsychiatrica, 39 (8-10), 213-223.

Clinical data support the hypothesis that extreme contact difficulties of patients suffering early infantile autism are primarily caused by a central impediment in the perception of surroundings. A central optical perceptual disorder may exist, excluding the supposition of damage in the field of visual disorder as a peripheral disorder. Impairment of visual contacts results in developmental disturbance of physiognomy recognition. In autistic psychopaths, these peculiarities do not occur, and it may be concluded that disorder of perception does not play a role. Viewed thus, symptoms have differential diagnostic values. (From LLBA, 1973, 7 (2), Abstract No. 7304326).

389. Cuden, H. (1968). Zur Einbeqiehung des Horsinnes bei der autistischen Psychopathie. (On including the sense of hearing in autistic psychopathy). Praxis der Kinderpsychologie und Kinderpsychiatrie, 17 (2), 51.

Reports on a case history of a 3 1/2 year-old boy demonstrating hearing difficulties. The use of objective audiometry disproved the autistic symptoms.(From PA, 1968, 42 (2), Abstract No. 14254).

390. Fassler, J., & Bryant, N.D. (1971). Disturbed children under reduced auditory input: A pilot study. Exceptional Children, 38 (3), 197-204.

An investigation of attention and performance on simple tasks as well as classroom attention of seriously disturbed, communication impaired, "autistic" children under conditions of reduced auditory input (using ear protectors) and under conditions of normal auditory input (using a placebo device). Under ear protector conditions, there was a significant increase in the amount of attention given to most of the tasks and a significant improvement in performance on two of five tasks. In addition, teacher ratings indicated a significant improvement in classroom attention under ear protector conditions. It was concluded that a significant number of "autistic' children do improve in classroom attention and show some gains in attention and performance on certain tasks under conditions of reduced auditory input. (From LLBA, 1972, 6 (1), Abstract No. 7201362).

391. Fassler, J. & Bryant, N.D. (1971). Teacher observations on using ear protectors for disturbed children. Exceptional Children, 38 (3), 254-256.

Additional data are presented from a study of the effects of reduced auditory input through the use of earphones on autistic children. A number of children were reluctant to give up the earphones at the conclusion of the first study. The earphones were left in the classrooms for self-initiated use for three to five weeks. Behavior rating sheets and classroom observations were made for the eight children who chose to continue wearing them. Those who used them showed substantial self-initiated use and associated improvement. Since there are no contra-indications for the device, it is suggested that they be available for those autistic children who choose to wear them. (From LLBA, 6 (1), Abstract No. 7201363).

392. Nober, E.H., & Simmons, J.Q. (1981). Comparison of auditory stimulus processing in normal and autistic adolescents. Journal of Autism and Developmental Disorders, 11, 175-189.

Five autistic adolescents were compared with six normal controls on speech time duration and sound level. Under stressful, disruptive auditory conditions, the two groups performed equally in the no-delay, delayed-feedback, and white-noise conditions. (From CDA, 1982, 56 (3-4), Abstract No. 1357).

393. Plantade, A., & Giradin, P. (1976). Psychose infantile et surdite. (Infantile psychosis and deafness).Revue de Neuropsychiatrie infantile et de'Hygiene Mentale de l'Enfance, 24 (12), 697-705.

Infantile deafness is seen coexisting with psychotic behavior in a significant % of cases. Research underway involving 6 cases of infantile psychosis affiliated with a hearing deficiency is reported; 2 case studies showing evolutionary progress & 1 showing no progress are presented. Psychopathology of the deaf child demonstrates how a disorder of a particular afferent channel causes a specific individual/world organization & how consequently disturbance of communication extends beyond the problem of audition. Deaf children are highly susceptible to risk of psychotic alienation; this can be prevented by promoting stimulation & relational contacts by an early and prolonged overall therapy. The nature of hearing problems in the autistic child is also discussed. (From LLBA, 1979, 13 (3), Abstract No. 04529).

394. Cohen, D.J., & Johnson, W.T. (1977). Cardiovascular correlates of attention in normal and psychiatrically disturbed children: Blood pressure, peripheral blood flow, and peripheral vascular resistance. Archives of General Psychiatry, 34 (5), 561-567.

The authors measured blood pressure, peripheral blood flow, and peripheral vascular resistance in 28 normal adults and children and in 18 5-20 year-old males with autism and severe disturbances in personality development while the individuals were engaged in a number of attentional tasks. Each task was designed to elicit outward direction of attention (and intake of sensory input) or inward direction of attention (and rejection of external sensory input). Sensory rejection tasks evoked increased blood flow and decreased peripheral vascular resistance in normal children and adults. Little alteration in physiological task response occurred in the most severely impaired Ss. A higher mean blood flow and lower peripheral vascular resitance was found in autistic Ss than in the normal Ss. It is suggested that it may be characteristic of autistic children to be in a state of sensory rejection associated with generally higher levels or arousal of defense against environmental bombardment. (From PA, 1978, 59 (1), Abstract No. 5798).

395. Gersten, R.M. (1978). Overselective attention in autistic, trainable mentally retarded, and normal children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

The study was designed to determine whether there were significant differences in overselective attention between samples of 10 verbal autistic, 10 verbal trainable mentally retarded (TMR), and 10 verbal normal children (6 years 6 months to 9 years old) and to investigate whether verbal autistic children and verbal TMR children display overselective attention. Results indicated that stimulus overselectivity is not unique to autistic children, but is shared by many mentally retarded children as well; and that stimulus overselectivity is not due to a lack of expressive language. (From ECEA, 1980, 12 (1), Abstract No. 120924).

396. Gold, M.S. (1975). Autism and attention: Theoretical considerations and a pilot study using set reaction time. Child Psychiatry and Human Development, 6, 68-80.

Four autistic children, 3 male and 1 female (7-9 years); 5 retarded mental age (MA) controls, and 10 normal chronological age (CA) controls were tested in this pilot study of reaction time (RT). Ss were given an auditory cue followed by a visual stimulus with 2 types of preparatory intervals: regular and irregular. The difference between reaction times in the regular and irregular sequences served as a measure of Ss' ability to coordinate and adapt an optimal attention-arousal set under conditions of regular procedure. CA controls had RTs shorter for regular than irregular series. MA controls had a similar pattern to normal CA. Autistic children were markedly slower and more variable than MA and CA controls with no overlap between autistic and control groups. (From CDA, 1976, 50 (5-6), Abstract No. 1249).

397. Hutt, C. (1969). Exploration, arousal and autism. Psychologische Forschung, 33 (1), 1-8.

398. Hutt, S.J., & Hutt, C. (1968). Stereotypy, arousal, and autism. Human Development, 11 (4), 277-286.

The authors reviewed studies showing the occurence of stereotyped behaviors in autistic children as a function of both environmental complexity and the novelty of physical and social stimuli. Physiological arousal is increased by complexity and novelty, thus suggesting an association between high levels of arousal and stereotypes. EEG studies support the association, stereotypes occurring most often in the presence of desynchronized EEG activity. The authors suggest that stereotypies belong in the categroy of "displacement activities" and serve the function of arousal-reducing by producing repetitive endogenous stimulation. They propose a more direct test of the hypothesis. (From PA, 1969, 43 (1), Abstract No. 4259).

399. Jose, P., & Cohen, D. (1980). The effect of unfamiliar tasks and teachers on autistic children's negativism. Journal of the American Academy of Child Psychiatry, 19, 78-79.

Tasks and teachers as novel stimuli were tested as elicitors of negativistic task performance and avoidance behaviors in autistic and cognitively and emotionally disturbed children. Both groups performed better and were more interested in the unfamiliar tasks than in the familiar one. (From CDA, 1981, 55 (3-4), Abstract No. 1071).

400. Koegel, R., Dunlap, G., Richman, G., & Dyer, K. (1981). The use of specific orienting cues for teaching discrimination tasks. Analysis & Intervention in

Developmental Disabilities, 1 (2), 187-198.

The authors note that experimental literature and clinical observations suggest that autistic children are frequently unresponsive to necessary cues in complex discrimination tasks. Thus, they provided preliminary orienting instructions designed to enhance responding to problematic cues reported by the children's therapists. A total of 6 discrimination tasks, were taught to 3 autistic children (4 yrs 11 mo. to 7 yrs 1 mo.), in the context of a multiple baseline design. Ss did not evidence acquisition for any of the referred tasks during the baseline condition, which employed common, nonspecific orienting cues. Additional orienting instructions were presented in the treatment condition. These required the Ss to make overt responses demonstrating that they had oriented to the specific relevant cues prior to responding. Rapid achievement of the acquisition criterion was produced by these procedures in each case. (From PA, 1982, 67 (4), Abstract No. 7904).

401. Kootz, J.P., & Cohen, D.J. (1981). Modulation of sensory intake in autistic children: cardiovascular and behavioral indices. Journal of of the American Academy of Child Psychiatry, 20, 692-701.

Cardiovascular correlates of attention were studied in autistic and normal boys during resting, social interaction, and a reaction-time task. The autistic children had elevated heart rate, indicating increased autonomic nervous system activity, and failed to show cardiovascular changes in sensory intake. (From CDA, 1982, 56 (5-6), Abstract No. 2238).

402. Litrownik, A., McInnis, E., Wetzel-Pritchard, A., & Filipelli, D. (1978). Restricted Stimulus control and inferred attentional deficits in autistic and retarded children. Journal of Abnormal Psychology, 87, 554-562.

Autistic Down's syndrome and normal children of the same mental age were intially trained on a single dimension, simultaneous match-to-sample problem. Following criterion performance, each child's simultaneous matching of 4 new dimensions (2 attributes per dimension) was assessed in order to clarify the relation of autism, retardation, and attentional deficits. The Down's syndrome children matched fewer attributes than did the autistic and normal children, who were equivalent in their performances. (From CDA, 1979, 53 (5-6), Abstract No. 862).

403. August, G.J., Stewart, M.A., & Tsai, L. (1981). The incidence of cognitive disabilities in the siblings of autistic children. *British Journal of Psychiatry*, *138*, 416-422.

Individual components of cognitive disability were assessed in the siblings of 41 autistic probands and compared with similar measures from a control group of 38 siblings of Down's syndrome individuals. The WISC-R the WPPSI, and the WRAT were administered to two Ss. The siblings of autistic probands displayed a significant familial clustering of cognitive disabilities. Disturbances in expressive and receptive language, specific learning disabilities, and varying degrees of mental subnormality were included in these cognitive disabilities. (From PA, 1982, *67* (2), Abstract No. 3708).

404. Baker, A.M. (1979). Cognitive functioning of psychotic children: An appraisal. *Exceptional Children*, *45* (5), 344-348.

A discussion of the relative cognitive functioning of psychotic (autistic) children is presented in terms of previous research and theoretical assumptions. The premise that psychotic children possess normal innate intelligence is challenged by the emergence of recent research dealing with measurement and stability of psychotic children's cognitive level. An analysis of recent and relevant research suggests that psychotic children do not differ from mentally retarded children in terms of cognitive functioning. It is proposed, therefore, that a reappraisal be made of the exciting assumptions about psychotic children's intelligence level and that those assumptions be modified in order to make them congruent with empirical investigations. (From ECEA, 1979, *11* (3), Abstract No. 113476).

405. Boucher, J. (1981). Immediate free recall in early childhood autism: Another point of behavioral similarity with the amnesic syndrome. *British Journal of Psychology*, *72* (2), 211-215.

Autistic children were compared with matched controls on immediate recall of word lists. Overall performance was very similar. However the autistic subjects recalled significantly fewer earlier presented and more later presented items than did controls. This finding is discussed in relation to the memory disabilities of adults suffering from amnesia. (From CIJE, 1981, Abstract No. EJ245203).

406. Boucher, J. (1981). Memory for recent events in autistic children. Journal of Autism and Developmental Disabilities, 11(3), 293-301.

Autistic children's memory for recent events was compared with that of normal and retarded controls. The autistic subjects' recall was inferior to that of retardates, and retarded children's recall was inferior to that of normals. Recent-event memory correlated with a language measure in the autistic group. (From CDA, 1982, 56 (5-6), Abstract No. 2186).

407. Boucher, J., & Warrington, E.K. (1976). Memory deficits in early infantile autism: Some similarities to the amnesic syndrome. British Journal of Psychology, 67 (1), 73-87.

Autistic children (N=29) were compared with control children on retention tasks tested by different methods. Fourteen Ss took part in one experiment, 6 in two, 3 in three, 5 in four, & 1 in all five. Twenty-eight normal children were tested, of whom 17 took part in one test, 6 in two, 5 in three, & none in all four. Thirty-six ability-matched children, of whom 8 attended regular schools & 21 attended schools for the educationally subnormal, were tested. Of these, 25 took part in one test, 8 in two, 3 in three, & none in all four. In three tests of recall using named pictures, written words, & spoken words as stimuli, autistic children were impaired compared to age-matched normal children and to ability-matched controls. In one test of forced-choice picture recognition, autistic children were impaired compared to ability-matched controls. These experimental paradigms were similar to some used for investigating the amnesic syndrome. Thus, findings on paired-associate learning differ in autistic and amnesic Ss, but findings on recall, recognition, & cued recall are comparable. A possible parallel between autism and amnesia is discussed. (From LLBA, 1980, 14 (1), Abstract No. 8001406).

408. Brauner, F. & Brauner, A. (1979). Disorders of cognitive development in autistic children. (Fren). Etudes Psychotherapiques, 10 (2), 117-124.

Challenges some conceptions about autism by reporting disorders of cognitive development in psychotic and autistic children, especially disturbances of language mute children and verbose children speaking in void. (From PA, 1981, 66 (2), Abstract No. 10461).

409. Bryson, C.Q. (1972). Short-term and cross-model

information processing in autistic children. *Journal of Learning Disabilities*, *5* (2), 81-91.

The short-term memory and cross-modal information processing capacities of seven autistic/schizophrenic children were tested with visual-visual and auditory-visual matching and sequencing tasks presented under three conditions: (1) simultaneous, (2) successive, and (3) delayed presentation. Although there were large individual differences in the patterning of intact functions, most of the children showed severe visual-visual short-term memory deficits and several children were unable to make cross-modal associations between auditory and visual stimuli. The results suggest that perceptual disabilities rather than emotional disturbance may underlie the delayed intellectual and language development of psychotic children and may contribute to the development of bizarre behavior patterns. (From LLBA, 1972, *6* (1), Abstract No. 7203083).

410. Clark, P., & Ruuter, M. (1979). Task Difficulty and Task Performance in Autistic Children. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *20* (4), 271-286.

This study examined the effects of varying cognitive demands on the task performance of 8- to 17-year-old autistic children. (From CIJE, 1980, Abstract No. 216566).

411. Curcio, F. (1978). Sensorimotor functioning and communication in mute autistic children. *Journal of Autism and Childhood Schizophrenia*, *8* (3), 281-292.

Twelve mute children (4-12 years old), diagnosed as autistic, were studied in order to describe their sensorimotor functioning and to relate their sensorimotor performance to nonverbal communication and cognitive development. (From CIJE, 1979, Abstract No. 192564).

412. Dalgleish, B. (1975). Cognitive processing and linguistic reference in autistic children. *Journal of Autism and Childhood Schizophrenia*, *5* (4), 353-361.

Mutism or echolalia and failure to analyze sentences for their deep structures are characteristics of language behavior of autistic childen. The experimental literature indicates that cognitive processes which underlie the construction of a lexicon or the learning of ordering rules may be disturbed in these children. (From ECEA, 1976, *8* (1), Abstract No. 080708).

413. Frith, U. (1972). Cognitive mechanisms in autism: Experiments with color and tone sequence production. Journal of Autism and Childhood Schizophrenia, 2 (2), 160-173.

Experiments are described in which 20 autistic, 20 normal, and 10 subnormal children, matched for MA; produced sequences of colors and tones. Underlying rules of patterns depended on MA in all groups. However, tendency to use simple rules rigidly, restrict available elements, and avoid rare patterns was specific to severely retarded children, a basic abnormality not accounted for by those of normal intelligence, using simple rules less strictly, making use of all elements, and frequently producing unique patterns. Complexity and originality rose with increasing choice of elements for building sequences. Modality made little difference, but tone sequences produced by autistic children were superior to their color sequences approaching normal pattern characteristics. Lack of flexibility in self generated rules is linked to a critical period in language development. It is suggested that spontaneous pattern production may facilitate diagnostic differentiation. (From LLBA, 1973, 7 (1), Abstract No. 7301450).

414. Frith, U. (1970). Studies in pattern detection in normal and autistic children: Immediate recall of auditory sequences. Journal of Abnormal Psychology, 76 (3), 413-420.

Normal, autistic, and subnormal children reproduced from memory binary sequences of the type "spoon horse spoon horse horse spoon." Autistic children achieved good recall in the less redundant sequences, but were relatively impaired in recalling highly redundant sequences. However, this applied only to autistic children with a low memory capacity, while those with a high memory capacity achieved the same level of recall as normal children. The detailed analysis of errors indicated differences between the autistic children and the control groups. Even in otherwise incorrectly recalled patterns, normal and subnormal children preserved the dominant rule of the presented pattern. This was not found in autistic children, who instead showed a marked response bias. Thus, while the control groups, regardless of developmental level, showed evidence of feature extraction, autistic children, regardless of development level, showed evidence of input independent pattern imposition. (From LLBA, 1971, 5 (2), Abstract No. E02096).

415. Frith, U. (1970). Studies in pattern detection in normal and autistic children. II. Reproduction and production of color sequences. Experimental Child Psychology, 10

(1), 120-135.

Findings are consistent with the hypothesis of an input processing deficit in autistic children. Autistic children were insensitive to differences in the structures present and tended to impose their own simple stereotyped patterns. Normal children imposed such patterns in the absence of structured input only. Paper reports work which has been submitted to the University of London as part of a Ph.D. thesis. (From CIJE, 1971, Abstract No. EJ027613).

416. Gersten, R.M. (1980). In search of the cognitive deficit in autism: Beyond the stimulus overselectivity model. Journal of Special Education, 14 (1), 47-65.

Research on overselective attention in autistic children is reviewed from a critical perspective. The philosophical underpinnings of this body of experimental literature are made explicit, and some limitations of the approach are discussed. The information processing paradigm of B. Hermelin and her colleagues is explored as an alternative conception. Methodological flaws and uncertainties in both groups of research are detailed, particularly the use of matching, imprecise definitions of autism, and reliance on the dubious construct of mental age. Suggestions for future research paradigms are offered. Finally, the current state of knowledge on overselective attention is detailed. A critical review of the literature indicates that overselective attention: (1) is not limited to autistic children, (2) may be only one of several developmental lags these children display, and (3) may or may not be strongly correlated with children's language abilities and general intellectual abilities. At present, there is no clear evidence that overselective attention is a productive way of analyzing children's learning in a natural setting when educationally relevant materials are presented to the child. (From ECEA, 1980, 12 (4), Abstract No. 124667).

417. Hammes, J.G., & Langdell, T. (1981). Precursors of symbol formation and childhood autism. Journal of Autism and Developmental Disabilities, 11 (3), 331-346.

Autistic children's ability to imitate and form internal images, their concept of object permanence, and their ability to anticipate were tested. They could form internal images but seemed to lack the ability to manipulate them in a purposeful and meaningful manner. (From CDA, 1982, 56 (5-6), Abstract No. 2222).

418. Hermelin, B. & Frithe, U. (1971). Psychological studies of childhood autism: Can autistic children make sense of

what they see and hear? The Journal of Special Education, 5 (2), 107-117.

The syndrome of childhood autism is described, and a series of psychological experiments is presented on perception, memory, and language. The experiments were carried out in order to explore the psychopathology of this specific disorder. The results show that autistic children have difficulties in perceiving meaning or structure in meaningful and ordered sequences. They behave similarly with both meaningful and meaningless material, and with structured and unstructured material. It was found that their typical response pattern was the same as the pattern normally found only in random or unstructured situations. (From LLBA, 1972, Abstract No. 7204808).

419. Hermelin, B., & O'Connor, N. (1975). The recall of digits by normal, deaf and autistic children. The British Journal of Psychology 66 (2), 203-209.

Previous studies have indicated that many deaf and autistic children recall digits in left-to-right rather than in 1st-to-last presented order. Ten normal, 10 autistic, and 10 deaf children were tested for immediate memory of visually presented digits. The digits were exposed either with or without a left-to-right spatial display arrangement and had to be recalled forwards as well as backwards. Normal and deaf children tended to be sensitive to both display conditions and recall requirements, whereas autistic children were mainly affected by recall direction. Serial position effects in and deaf groups were more dependent on retrieval order than on input order. Results confirm previous findings that autistic children have good short term memories. Display conditions and task requirements minimally affected the group's relative recall efficiency. Display conditions influenced the strategies adopted by the normal and deaf children, and to a lesser extent, by the autistic children. (From LLBA, 1976, 10 (1), Abstract No. 7600977).

420. Hermelin, B. (1972). Locating events in space and time: Experiments with autistic, blind, and deaf children. Journal of Autism and Childhood Schizophrenia, 2 (3), 288-298).

Autistic, blind, deaf (10 in each handicapped group) and normal (20) children were compared in two experiments focused on responses to stimuli in situations allowing for alternative strategies and coding processes. The autistic Ss (ranging in age from 6 to 14 years) and control groups were matched for levels of cognitive development or for task performance relevant to the functions tested. Like the normal and unlike the blind or blindfolded, autistic children used visual rather tactile cues to locate stimuli. On the other hand, like the deaf, but unlike the hearing, they organized visually presented verbal items in a spatially rather than temporally ordered sequence. It was suggested that autistic children do not necessarily process visual stimuli inadequately. Rather, processing capacity was thought to depend on the availability of codes for organization, which may be relatively independent of the modality in which stimuli are presented. (From ECEA,1973, 5 (1), Abstract No. 050746).

421. Hirano, N. (1979). Mental development in autistic children: A survey or recent studies. (Japn). Japanese Journal of Child & Adolescent Psychiatry, 20 (4), 271-288.

Hirano discusses recent studies on autistic children's mental abilities and language. It is noted that results of intelligence tests vary according to the particular disorder, the same discrimination learning ability level is exhibited in normal children of the same mental age, and retarded vocabulary development characterizes speech, though some autistic children acquire normal use. Therefore, although the autistic child's mental abilities are impaired due to organic damage to the CNS, development does occur very slowly. (From PA, 1981, 65 (2), Abstract No. 12914).

422. James, W.A. (1978). Effect of level of classification skill on matching performance for autistic and nonautistic children ages 12-21. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Among the findings were that, for both autistic and normal Ss, most objects were matched correctly under the identical condition (where both objects were exactly the same), fewer were matched correctly under the functional condition (where both objects did the same thing), and the least amount were matched correctly under the categorical condition (where both objects had the same name). Normal Ss matched more objects correctly under the categorical condition than did autistic Ss. (From ECEA, 1979, 11 (2), Abstract No. 113079).

423. Koegel, R.L., & Covert, A. (1972). The relationship of self-stimulation to learning in autistic children. Journal of Applied Behavior Analysis, 5 (4), 381-387).

The acquistion of discriminative behavior was studied in three autistic children with high-frequency self-stimulatory behavior. it was found that: (1) The children did not acquire the discrimination while engaged in self-stimulation; (2) Suppression of self-stimulation produced an increase in correct responding, with eventual acquistion of the discrimination; (3) Successful discrimination learning was always associated with a reduction in self-stimulatory behavior, even when aversive stimuli were not used for suppression. (From LLBA, 1973, 7, Abstract No. 7302784).

424. Koh, T. (1977). Cognitive perceptual treatment of exceptional children. Child: Care, Health, and Development, 2, 251-259.

Cognitive operations consist of multiple stages of information processing. Treatment is designed to specify the locus and nature of the child's deficits in information processing and to compensate for these deficits. A case study of an autistic child is presented. (From CDA, 1978, 52 (1-2), Abstract No. 434).

425. Langdell, T. (1978). Recognition of faces: An approach to the study of autism. Journal of Child Psychology and Psychiatry, 19 (3), 255-268.

Two age groups (mean ages 5 to 14 years) of normal, autistic, and subnormal children were tested for their ability to recognize the faces of peers from isolated facial features and inverted photographs. Normal and subnormal Ss found the upper regions of the face most helpful for identification, whereas the younger autistic children found lower features more helpful. The older autistic children showed no specific reliance on any one area, but were found to have error scores as low as those younger controls on recognizing upper portions. Results were found to favor a hypothesis in which the autistic child's familiarity with the mouth and/or eye areas is related to a cognitive deficit which affects the processing of both verbal and nonverbal interpersonal communication. (From CDA, 1980, 12 (2), Abstract No. 121444).

426. Maltz, A. (1981). Comparison of cognitive deficits among autistic and retarded children on the Arthur adaptation of the Leiter International Performance Scales. Journal of Autism and Developmental Disorders, 11 (4), 413-426.

Seven autistic, 7 mentally retarded, and 11 normal children were matched for mental age according to the Arthur Adaptation of the Leiter International Performance Scale (AALIPS). On the basis of two constructs, concrete discrimination and formal discrimination, all of the tasks in the AALIPS were grouped into two indices and six scales. Group comparisons were made on the indices and scales. The results showed that (a) the performance of the autistic children was better than that of the other two groups on concrete discrimination tasks, (b) the performance of the autistic children was poorer than that of the other two groups on formal discrimination tasks, and (c) the quality of the autistic children's performance decreased as task requirements for formal discrimination increased. This pattern was not observed among the mentally retarded or normal children. A further analysis for sex showed significant main effects for sex on the formal discrimination tasks. The application of these results to test interpretation and future research is discussed. (From ECEA, 1982, 14 (2), Abstract No. 14).

427. Malt, A.D. (1979). Concrete and formal discrimination: Cognitive constructs for the diagnosis of autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

Among results of a study of mentally age-matched autistic, mentally retarded, and normal children were that autistic children evidenced specific cognitive disabilities, that autistic children performed significantly below the other two groups on tasks requiring formal discrimination, and that they performed better on tasks of conrete discrimination. (From ECEA, 1980, 12 (3), Abstract No. 123895).

428. Noach, M. (1974). Concept formation in the speaking autistic child. International Journal of Mental Health, 3 (1), 100-109.

Using a modified form of the test of concept formation by E. Haufman and J. Kasanin (1937), the author attempted to determine the structure of concept formation on different developmental levels in 4 speaking autistic female Ss 8.9-14.4 yrs old compared with a similar group of 4 normal Ss. The Ss were required to sort 22 cardboard blocks with names on the bottom into categories based on these names. Concept formation in the autistic child was significantly impaired. (From PA, 1976, 55 (1), Abstract No. 854).

429. O'Connor, N., & Hermelin, B. (1971). Cognitive deficits in children. British Medical Bulletin, 27 (3), 227-232.

The authors briefly compare the cognitive deficits of autistic and severely abnormal children and consider linguistic, mnemonic, perceptual-attentional, and logical aspects of cognition. In conclusion, 2 suggestion are made: (1) in subnormal children the coding processes of the memory system may be impaired, and (2) in autistic children the selective extraction and categorization systems may be faulty. (From PA, 1972, 48 (2), Abstract No. 11629).

430. O'Connor, N., & Hermelin, B. (1973). The spatial or temporal organization of short-term memory. The Quarterly Journal of Experimental Psychology, 25 (3), 335-343.

A report of a series of experiments which investigated the spatial/temporal organization of short term memory. In the first experiment, normal children were used as Ss; in the second experiment, deaf, subnormal, and autistic children were used as Ss, in order to compare their responses with those of the normal children. Children were shown three visually displayed digits. The digits were exposed successively in three windows in such a way that the left-to-right order never corresponded with the temporal-sequential order. When asked to recall or recognize the digits, normal children responded in terms of temporal order. Deaf, autistic, and some subnormal children recalled or recognized the spatial, i.e., the left-to-right order. The relationship between hearing and/or speech and the temporal ordering of visual displays is discussed. (From LLBA, 1974, 8 (1), Abstract No. 7400211).

431. Park, D., & Youderia, P. (1974). Light and number: Ordering principles in the world of an autistic child. Journal of Autism and Childhood Schizophrenia, 4 (4), 313-323.

A 12-year-old autistic girl developed a complex system of ideas for uniting number concepts with elements of sunlight and weather. Certain prime numbers were endowed with positive or negative affect, which persisted even when they were multiplied to form composite numbers. The numbers were associated with 29 kinds of weather, real and fictitious, which also had strong affect attached to them. The system may have been an ingenious and laborious attempt by the child to order her experience and compensate for her failure to endow events and emotions with ordinary social and emotional meaning. (From ECEA, 1975, 7 (3), Abstract No. 072106).

432. Prior, M.R. (1979). Cognitive abilities and disabilities in infantile autism. Journal of Abnormal Child Psychology, 7 (4), 357-380.

The literature on various aspects of learning and performance in autistic children is reviewed and interpreted as indicating very little that is specific to autism. The current evidence is considered to support a hypothesis concerning abnormal hemisphere functioning in this group of children. (From CIJE, 1981, Abstract No. 238817).

433. Prior, M. (1977). Conditional matching learning set performance in autistic children. Journal of Child Psychology & Psychiatry & Allied Disciplines, 18 (2), 183-189.

The following hypothesis were tested: (a) If autistic children were able to learn conditional matching learning sets (CMLS) problems this would be an indication that their real ability was greater than their apparent ability as shown by standard testing; and (b) if normal children of same age matched the autistic children. Autistic and normal children (MAs of both groups 3 yrs 2 mo) were studied and the CMLS involved the use of conditional cues for correct solutions. Where learning depended on higher order processing involving adaptation to positive and negative symbols or signs, the autistic children performed poorly. Autistic children, with one exception, performed at chance level or below, and evidence of improvement was found over trials of testing. However, 5 of the 8 normal Ss did improve between problems and with retesting. The author suggests that autistic children suffer from a particular defecit which is exposed to their inability in the CMLS task to make use of symbolic information. (From PA, 1978, 59 (1), Abstract No. 5837).

434. Prior, M.R., & Chen, C.S. (1976). Short-term and serial memory in autistic, retarded, and normal children. Journal of Autism and Childhood Schizophrenia, 6 (2), 121-131.

435. Prior, M.R. & Chen, C.S. (1975). Learning set acquisition in autistic children. Journal of Abnormal Psychology, 84 (6), 701-708.

The performance of 19 autistic children (mean age 9 years) on an object discrimination learning set task was compared with that of mental-age and IQ-matched control groups of normal and retarded children. All but two of the autistic children acquired a learning set. However, the mean number of problems to criterion was similar for both the autistic and control groups of children who acquired a learning set. Findings suggested that the superior performance of autistic children on a task which is believed to be related to mental age indicates that the mental age of these children may be higher than that which is usually obtained with standard measuring techniques. The results of the study provided somewhat equivocal evidence for a relation between mental age, IQ, and learning set formation in the normal and retarded children. (From ECEA, 1976, 8, Abstract No. 080551).

436. Sigman, M. (1982). Sensorimotor skills and language comprehension in autistic children. Journal of Abnormal Child Psychology, 9 149-165.

Autistic children were administered a standardized scale of sensorimotor intelligence and of receptive language. The autistic children demonstrated sophisticated skills but were less able to identify words correctly. The sensorimotor behavior of autistic children with language comprehension did not differ from those without language comprehension. (From CDA, 56 (3-4), Abstract No. 1376).

437. Sindelar, P.T., Meisel, C.J., Buy, M.J., & Klein, E.S. (1981). Differences in cognitive functioning of retarded children: A response to Ahmad Baker. Exceptional Children, 47, 406-411.

Baker, in arguing that not all autistic children are normally intelligent, also implied that the cognitive functioning of autistic and mentally retarded children was the same. The research reviewed in this paper challenges the validity of this implication. (From CDA, 1981, 55 (5-60, Abstract No. 1801).

438. Sloman, S.G. (1975). The "time-blind" child: Autism redefined. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Described is a theory of autism which posits that the autistic child has an innate structural cognitive deficit affecting temporal perception. "Time-Blindness" is explained to make the world seem a series of unrelated "stills" devoid of meaning. (From ECEA, 1978, 10 (2), Abstract No. 102079).

439. Tymchuk, A.J., et al. (1977). Intellectual characteristics of adolescent childhood psychotics with high verbal ability. Journal of Mental Deficiency Research, 21 (2), 133-138.

The study involving 20 autistic and 20 control children (mean age 15 years for both groups) was conducted to investigate patterns of intelligence and capacities of a group of verbal adolescents with a diagnosis of childhood psychosis made early in life. Ss were compared on WISC scores. Findings indicated that intellectual deficits, characterized by an inability to synthesize information and to interpret social nuances, persist into adolescence with psychotic children.

(From ECEA, 1978, 10 (2), Abstract No. 101270).

440. Wassing, H.E., & Van Krevelen, D.A. (1968). ZurFrage der Intelligenz zeichenbegabter autistischer Kinder. (Intelligence in autistic children artistic ability). Acta Paedopsychiatrica, 35 (4-8), 215-227.

Disagree with Fischer's argument and present the incident of unusual drawing ability in an otherwise unintelligent autistic child as a case of pluralistic intelligence. View this ability as a perception rather than an indication of the presence of good cognitive capacity, as Fischer did. (From PA, 1969, 43 (1), Abstract No. 4245).

441. Alarcon, Mollie McCullough. (1977). The effects of signed speech on the development of oral language in noncommunicative autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Two of three noncommunicative autistic children (5 to 10 years old) evidenced significant changes in oral language behavior after a program of signed speech instruction. (From ECEA, 1979, 10 (4), Abstract No. 104278).

442. Ando, H., & Yoshimura, I. (1978). A comparative study of speech skill levels and speech disorder patterns in autistic and mentally retarded children. Japanese Journal of Child Psychiatry, 19 (3), 194-200.

Compared the communicative ability of 66 autistic (mean age 4 years, 8 months) and 161 mentally retarded children (mean age 3 years, 11 months). Results indicated no significant differences in speech skill levels and prevalence of composition errors of words or sentences, reversal of personal pronouns, and mechanical repetition of questioning. Autistic children were found to demonstrate significantly more echolalia, habitual use of mime, monologue,and a history of lost speech. (From PA, 1980, 64 (2), Abstract No. 12569).

443. Ando, H., & Yoshimur, I. (1979). Effects of age on communication skill levels and prevalence of maladaptive behaviors in autistic and mentally retarded children. Journal of Autism and Developmental Disorders, 9 (1), 83-93.

The effect of age on communication and maladaptive behavior was studied in 175 autistic and mentally retarded children (ages 6 to 14 years) in Japan. It was found that autistic S's skills of comprehension improved significantly with age, and that speech improved somewhat as well, but that maladaptive behaviors other than hyperactivity did not change significantly with age. Withdrawal improved significantly with age in the mentally retarded Ss but not in the autistic ones. (From ECEA, 1979, 11 (3), Abstract No. 11 4012).

444. Armstrong, J. (1978). Teaching language to an autistic boy. B.C. Journal of Special Education, 2 (4), 351-356.

A teacher describes how behavior modification techniques based on I. Lovaas' approach resulted in significant improvement in the language of a first grade autistic boy. (From ECEA, 1980, 12 (4), Abstract No. 12 4909).

445. Aurnhammer-Frith, U. (1969). Emphasis and meaning in recall in normal and autistic children. Lang. Speech, 12 (1), 29-38.

An experiment was designed to investigate the effects of some aspects of phonological and syntactic structure of verbal material on recall in normal and autistic children. It was found that autistic children were impaired in their appreciation of syntactic structure but not of phonological structure. It was also found that there are developmental changes in the influence of these variables. With increasing grammatical context gains in importance whereas the dependence on emphasis decreases. (From LLBA, 1969, 3 (2), Abstract No. CO 6017).

446. Austin, J.T. (1969). Language therapy with an autistic nonverbal boy. Exceptional Children, 35 (7), 555-558.

Language development for this autistic boy, whether oral or written, took the form of rote learning. Visual and auditory perception were isolated phenomena. Although there was some indication that the communicative function of language for social contact might develop after other problems in maturation could be resolved, there was little evidence of it at this time. (From LLBA, 1969, 3 (2), Abstract No. C04134).

447. Baltaxe, C.A., & Simmons, J.Q. (1977). Bedtime soliloquies and linguistic competence in autism. Journal of Speech and Hearing Disorders, 42 (3), 376-393.

Linguistic competence of an autistic child was investigated by means of bedtime soliloquies. Such monologues may be useful as a diagnostic tool. The interrelationship between echolalia and language development is discussed. Three bedtime soliloquies of an eight-year-old autistic child are analyzed for echolalia vs propositional speech, ungrammaticality types, & connected discourse analysis. Results are compared with earlier data for a normal child. Difficulties in judging echolalic vs propositional speech are pointed out. Ungrammaticality types were found to be useful indicators of apparent differences between the acquisition process in the normal and autistic child. They revealed that the autistic child may use linguistic strategies used only minimally by the normal child. It is found that the autistic child has specific but limited linguistic competence. It is hypothesized that the autistic child acquires more functional, useful language through a process of gradually braking down echolalic patterns. This would support echolalia as the basis for language therapy training. (From LLBA, 1979, 13 (2), Abstract No. 02836).

448. Baltaxe, C.A. (1977). Pragmatic deficits in the language of autistic adolescents. Journal of Pediatric Psychology, 2 (4), 176-180.

Investigated were patterns of deficits in pragmatic competence in five autistic adolescents (14 to 21 years old). The dialogue analyzed was obtained between each of the Ss and the interviewer in an informal situation. The following three patterns emerged: impairment in speaker-hearer role relationship, impairment in rules of conduct governing a dialogue, and impairment in foregrounding and backgrounding of information. (From ECEA, 1979, 11 (1), Abstract No. 110885).

449. Barrera, R.D. (1980). A simultaneous treatment comparison of three expressive language training programs with a mute autistic child. Journal of Autism and Developmental Disorders, 10, 21-39.

A single-subject, alternating-treatment (multi-element) design was used to compare the rate of expressive word acquisition across 3 different language training models: total commmunication, sign training, nonverbal sign-alone training, and oral training. Results show the total-communication model to be superior to both oral and sign-alone training. (From CDA, 1982, 56 (1-2), Abstract No. 551).

450. Bartak, L., Rutter, M., & Cox, A. (1975). A comparative study of infantile autism & specific developmental receptive language disorder: I. The children. British Journal of Psychiatry, 126, 127-145.

451. Bartak, L. & Rutter, M. (1974). The use of personal pronouns by autistic children. Journal of Autism and Childhood Schizophrenia, 4 (3), 217-222.

Spontaneously echolalic autistic children who had never used the pronoun "I" were exposed to short sentences containing several personal pronouns in all positions in a three-word utterance. There was no tendency for children to avoid the repetition of "I", once sentence postion was controlled. A number of children echoed the final word of the sentence while others repeated the whole utterance. The findings provide no support for a psychogenic theory of speech behavior in autistic children. (From LLBA, 9 (1), Abstract No. 7504190).

452. Bartak, I., et al. (1977). A comparative study of infantile autism and specific developmental receptive language disorders. III. Discriminant function analysis. Journal of Autism and Childhood Schizophrenia, 7 (4), 383-396.

A psychometric, observational, and interview study was undertaken with 47 boys, aged 4-1/2 to 10 years, with nonverbal IQs of 70 and a severe developmental disorder of language comprehension. Separate discriminant function analyses, based on behavioral, language, or cognitive features, showed little overlap between clinically defined autistic and dysphasic subgroups. Moreover, the discrimination could be made as clearly on language or cognitive characteristics as on social or behavioral criteria. Language abnormalities and behavioral features also intercorrelated within the autistic subgroup. It was concluded that autism and dysphasia differ in important ways and that a cognitive deficit is an essential part of the syndrome of autism. (From ECEA, 1978, 10 (3), Abstract No. 102840).

453. Bartlett, D., Ora, J., Brown, E., & Butler, J. (1974). The effects of reinforcement on psychotic speech in a case of early infantile autism, age 12. Journal of Behavior Therapy and Experimental Psychiatry, 2 (2), 145-149.

A report of the procedures used to reduce the relative frequency of psychotic speech in a 12 year old autistic child, and to produce verbal behavior appropriate for more conventional psychotherapeutic intervention. Four experimental sessions were designed in which the subject was reinforced for rational speech (Session 1), extinguished (Session 2), and then alternately reinforced for rational and psychotic speech (Sessions 3 and 4). The results indicated that the subject's verbal behavior was clearly controlled by the token reinforcement schedule, especially when verbal statement of the contingencies was given. The present approach may provide an effective treatment paradigm for autistic children who develop adequate speech and appear not to be intellectually impaired. (From LLBA, 1972, 6 (1), Abstract No. 7201272).

454. Bartolucci, G., & Pierce, S. (1977). A preliminary comparison of phonological development in autistic, normal, and mentally retarded subjects. The British Journal of Disorders of Communication, 12 (2), 137-147.

Early childhood autism is a syndrome which appears during the first thirty months of life and is typified by a severe disturbance in language development, among other behavioral abnormalities. Since no systematic linguistic investigation of autistic children is available, an investigation of the phonological characteristics of ten 11-year-old autistic children was carried out, in both production and perception of speech sounds. Production was measured through a picture naming task, and perception through the Wepman Auditory Discrimination Test, and through a false/positive test for sound discrimination. To investigate the possibility of atypical phonological characteristics in this group, they were compared with 10 normal (6-year-old) & 10 mentally retarded (11-year-old) children matched on a nonlinguistic test of mental age. Results suggest that the autistic group showed a delayed pattern of phonological characteristics acquisition similar to that found in the mentally retarded group, indicating speech therapy techniques used with the latter might also be successful with the former. (From LLBA, 1979, 13 (4), Abstract No. 05971).

455. Bartolucci, G. et al. (1976). Phonological investigation of verbal autistic and mentally retarded subjects. Journal of Autism and Childhood Schizophrenia, 6 (4), 303-316.

Compared were the phonological systems of nine autistic children (mean age 12.04 years) and 12 mentally retarded children (mean age 11.75 years). Ss were administered the Edinburgh Articulation Test to elicit spontaneous utterances by the presentation of pictures. Findings revealed a delay in phoneme acquistion, as well as a relative uniformity of error types in both groups. The autistic Ss, however, differed significantly from the mentally retarded in the phonemic substitutions which they made. Autistic Ss were also characterized by a high correlation between frequency of phonlogical errors and level of overall language development. (From ECEA, 1977, 9 (3), Abstract No. 091928).

456. Bartolucci, G., & Albers, R.J. (1974). Deictic categories in the language of autistic children. Journal of Autism and Childhood Schizophrenia, 4 (2), 131-141.

Certain characteristics of the syntactic structures of the language of autistic children, such as their lack of mastery of the use of pronouns, have been described. Further investigation of syntactic structures, particularly those related to deixis, may reveal a specific deviance in verbal autistic children. A pilot investigation of the production of tense markers in three autistic, three mentally retarded, and two normal children is reported. Testing for the production of tense inflections employed a standardized structural test situation using pictures and toys. Transcripts were scored according to agreed-upon criteria for expecting the appearance of a certain tense form. Significant differences were found in the production of the past tense; the percent of correct responses was 80% for the normal children, 8% for the autistic Ss, and the mentally retarded Ss fell in between with 60%. It is concluded that the initial hypothesis of deviance of language acquisition in childhood autism, particularly in areas related to language deixis, is strengthened by the results. (From LLBA, 1975, 9 (1), Abstract No. 7502990).

457. Bartolucci, G., Pierce, S., & Streiner, D. (1980). Cross-sectional studies of grammatical morphemes in autistic and mentally retarded children. Journal of Autism and Developmental Disorders, 10, 39-50.

The autistic subjects omitted functors frequently and independently of the grammatical complexity of their language. The rank ordering of morphemes was consistent within both the autistic and mentally retarded groups but showed no correlation between the two groups or to the rank ordering described by deVilliers and deVilliers. (From CDA, 1982, 56 (1-2), Abstract No. 45).

458. Benaroya, S., et al. (1977). Sign language and multisensory input training of children with communication and related developmental disorders. Journal of Autism and Childhood Schizophrenia, 7 (1), 23-31.

In a research project on simultaneous communication and multisensory input in the treatment of six autistic and communication disordered children, the children, age 5 to 12, were taught manually signed English and speech using a multisensory-intrusion approach. The hypothesis was that such a technique would serve to alleviate the children's difficulties in information processing, organization of experience, and affect. The dependent measures were behavioral ratings derived from both structured (teaching) and unstructured (free play) sessions. The results indicate that the children manifested a consistent acquistion of sign language, which in some cases transferred into verbal communication skills. Moreover, statistical analyses of some of the observed socioaffective behaviors (i.e., nonsolitary play, interaction with peers and adults, exploration, and detachment) revealed tendencies supportive of the hypothesis. The variability of the data preclude any categorical statement in relation to the hypothesis. However, the preliminary results strongly support the continuation of the study. (From ECEA, 1978, 9 (4), Abstract No. 093026).

459. Benedetti, P., & Mayer, R. (1973). Deviations de la connaissance exprimees dans le langage de l'enfant psychotique (Fr.). Aberrations of understanding expressed language in the speech of the psychotic child. *Revue de Neuropsychiatrie infantile et d'Hygiene Mentale de l'Enfance*, *21* (1-2), 51-54.

An examination of the phenomenological aspects of the behavior of the psychotic child, regarded as an expression of a defense against destructuring anxiety. The iterative and stereotyped manifestations are interpreted as expressing a defense, and at the same time, the limits of perception. The characteristics of communication are analyzed in terms of poverty of empathy, investments, and projective identifications. Particular significance is provided by the semantic contents that are individualized. The language of these children has essentially the significance of increasing the individual's security and reinforcing his autism. (From LLBA, 1973, *7* (2), Abstract No. 7304359).

460. Bernaldo De Quiros, J. (1969). Disturbances in the language of a child: The child who does not speak. *Clin. Proc. Child. Hosp., Washington*, *25* (7), 192-205.

In this paper the traditional four groups of conditions which may provoke delay in the acquisition of speech in a child are reviewed. Some recommendations for pediatricians are made, and some other professional aspects of diagnoses and prognoses concerning the child who does not speak are analyzed. New methods of investigation and assessment are available which can orient the physician to the existence of different forms of deafness, aphasia, autism, or mental retardation. In this sense, these terms are only labels and it is indispensable to arrive at a more accurate and exact diagnosis. The paper concludes with a discussion of the existence of brain stem deafness in the young child. (From LLBA, 1969, *3* (2), Abstract No. C06610).

461. Bernard-Opitz, V. (1982). Pragmatic analysis of the communicative behavior of an autistic child. *Journal of Speech and Hearing Diosrders*, *47*, 99-109.

Results indicated that adults' communicative performance was a function of their relationship with the subject as well as the different experimental conditions. The child's communicative behavior showed greater consistency in conditions with the same interlocutor than over comparable experimental settings. (From CDA, 1982, *56* (5-6), Abstract No. 2183).

462. Blair, N.G. (1975). A comparison of the effects of symbol versus speech training on the behavior of autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

In the study investigating the use of symbols with autistic children and to measure behavioral responses to symbolic instruction, it was found that three Ss who exhibited echolalic speech showed no significant differences in inappropriate responses between training conditions and that one S who was functionally mute showed fewer inappropriate responses during the last symbol training condition than in either of the two speech training conditions but the differences were not significant. (From ECEA, 1979, 9 (3), Abstract No. 092523).

463. Blank, M. (1981). Applying psycholinguistic concepts to the treatment of an autistic child. Applied Psycholinguisitics, 2 (1), 65-84.

The training focused on teaching the combinatorial and semantic properties of grammatical morphemes and resulted in the child's developing and using sentences. (From CDA, 1982, 56 (3-4), Abstract NO. 1301).

464. Bloch, J., Gersten, E., & Kornblum, S. (1980). Evaluation of a language program for young autistic children. Journal of Speech and Hearing Disorders, 45 (1), 76-89.

Presented are retrospective data comparing an individualized language development program for preschool autistic children receiving language remediation (experimental Ss) with a control group receiving the basic school curriculum only (n =26). All findings favored the language remediation group, as indicated: (1) experimental Ss made significant gains in 1 year while the control group required 2 years; (2) after 1 year, experimental Ss surpassed controls on 4 measures; (3) only experimental Ss made significant gains in communicative speech, noteworthy because interpersonal interaction is so difficult for the autistic child; & (4) after 2 years, 58% of the experimental Ss, but only 14% of the controls, had mastered all 7 skills. Results support the hypothesis than an individualized language remediation program facilitates the acquisition of prelinguistic & linguistic skills (From LLBA, 1982, 16 (2), Abstract No. 8203494).

465. Bloch, J. (1971). Nonverbal messages: A means of verbalization. Teaching Exceptional Children, 4 (1), 10-17.

Described is an early childhood education program for emotionally disturbed children without language development that emphasizes verbal learning. The classroom program is shown to saturate the child with group and individual experiences designed to stimulate language and to foster language comprehension. The children have diagnoses of emotional disturbances or neurological handicap with severely impaired emotional, intellectual, and social functioning. The case study of a nonverbal autistic boy illustrates the school's approach. Speech stimulation is begun by placing the child in the classroom and by engaging him at his own developmental level. The case study points out the following: words begin to replace nonverbal communication, planning is individualized for each child, visual aids accompany speech, special songs may be be impetus for verbalization, toys are used as enticement, and the children are stimulated to keep talking. (From ECEA, 1972, 4 (1), Abstract No. 040534).

466. Bonvillian, J., Nelson, K., & Rhyne, J. (1981). Sign language and autism. Journal of Autism and Developmental Disorders, 11, 125-137.

Research findings indicate that nearly all autistic children learn receptive and expressive signs, and many learn to combine signs. These children also exhibit marked improvement in adaptive behaviors. Speech skills are acquired by fewer children and may be developed through simultaneous speech and sign training. (From CDA, 1982, 56 (1-2), Abstract No. 554).

467. Bonvillian, J., Nelson, K. (1976). Sign language acquisition in a mute autistic boy. Journal of Speech and Hearing Disorders, 41 (3), 339-347.

A mute autistic nine-year-old boy learned to communicate extensively through American Sign Language. He had never been capable of productive language, despite various treatments. Over a six-month period he produced many spontaneous signs & sign combinations, & analyses of the child's sign combinations indicated the presence of a full range of semantic relations. Further evidence of conceptual progress was provided by the child's increased score on the Peabody Picture Vocabulary Test. In addition, parents' & teachers' reports indicated that the child's social behavior improved. The extent of the boys linguistic progress & associated improvement in social behavior markedly exceeds that usually reported for mute autistic children. (From LLBA, 1979, 3 (2), Abstract No. 01403).

468. Boucher, J. (1976). Articulation in early childhood autism. Journal of Autism and Childhood Schizophrenia,

6 (4), 297-302.

Using a standardized articulation test, comparisons were made between the articulation of 31 autistic children (mean age 11 years) and (1) a group of 31 predominantly subnormal language matched controls; (2) 11 developmental receptive dysphasic controls. (From CIJE, 1977, Abstract No. EJ162336).

469. Boucher, J. (1976). Is autism primarily a language disorder? The British Journal of Disorders of Communication, 11 (2), 135-143.

Theories regarding the central role of language disorder in autistic syndrome's genesis are described, & evidence related to these theories is discussed. Several current theories hold that communication & inner language impairment are the autistic syndrome's primary or causal symptoms. Evidence concerning the theory of autism as a language disorder is presented and discussed. Although some researchers have suggested a similarity between developmental dysphasia & autism, they exhibit differences which cannot be attributed to visual impairment or secondary autistic symptoms, indicating that the impairment of spoken language is probably qualitatively different in dysphasia & in autism. It is argued that the language disorder of autism is not a disorder of inner language in the sense of being an impairment of the symbolizing processs, nor is it a global impairment of concept & conceptual thinking acquisition. Strong evidence does not exist supporting the theory that some one criterial feature of autism (e.g. language disturbance) is primary in the sense of causing the other criterial features of the syndrome to occur. Further, defects of communication & inner language are almost certainly cognitive in origin & may be only a part of a broad cognitive impairment. It is suggested that further research will show autism to resemble " other psychoses in consisting of a set of primary, or fundamental, disturbances involving socio-emotional behavior, language & thought; these disturbances being related to each other, but none preceding the others in a causal sense." Therefore, however conspicuous the language disability in autism may be, it is misleading to speak of language impairment as being a causal factor in the syndrome. (From LLBA, 1979, 13 (1), Abstract No. 01288).

470. Brady, D., & Smouse, A. (1978). A simultaneous comparison of three methods for language training with an autistic child: An experimental single case analysis. Journal of Autism and childhood Schizophrenia, 8 (3), 271-279.

Three methods for experimental language acquisition in one 6 year old autistic boy were compared. The methods used in the simultaneous treatment design were analyzed using a Latin square design and trend line analysis. Results showed a total communication approach to be superior to sign based and verbalization approaches. (From ECEA, 1979, 11, Abstract No. EC112099).

471. Brady, D.O. (1978). The effects of simultaneous treatments for language acquisition in an autistic child. University Microfilms International, P.O. Box 1346, Ann Arbor MI.

The total communication method was found to be more effective than signing or reinforcing vocalization in the language acquisition of an autistic child. (From ECEA, 1979, 11 (2), Abstract No. 112099).

472. Bram, S. et al. (1977). A relationship between motor control and language development in an autistic child. Journal of Autism and childhood Schizophrenia, 7 (1), 57-67.

A study to evaluate the effectiveness of behavior modification techniques in eliciting speech from nursery age autistic children yielded new data to confirm the importance of the relationship between development of motor control and language development. Results from a case study of one autistic child (4 years old) demonstrated that the child most frequently vocalized when motorically quiet, and engaged in motor activity when not speaking and especially prior to speech. Data from 30 half-hour behavior modification sessions and an intensive clinical interview indicated that limiting the child's gross motor activity was effective in increasing the frequency of vocalization. Several theoretical interpretations of this phenomenon as well as implications for treatment and further research were formulated. (From ECEA, 1978, 9 (4), Abstract No. 093028).

473. Buium, N., & Stuecher, H. (1974). On some language parameters of autistic echolalie. Language and Speech, 17 (4), 353-357.

A report of a study on whether the processes involved in autistic echolalia include anything beyond rote mechanical parroting. The results indicated that the autistic child serving as the S of this study recognized certain grammatical relations in his sentence repetitions. This finding is in accord with D.I. Slobin & others, who suggest that recognition of syntactical structures & meaning plays an important role in memory for speech. (From LLBA, 1976, 10 (1), Abstract No. 7600753).

474. Burnham, D.I. (1974). A discussion of the paper by Donald Meltzer on "Mutism in infantile autism, schizophrenia and manic-depressive states: The correlation of clinical psychopathology and linguistics". International Journal of Psycho-Analysis, 55 (3), 405-406.

Discusses R. Meltzer's premise of the need to reevaluate the utilization of words in autistic children and precision in the differential diagnosis of autism. (From PA, 1977, 57 (1), Abstract No. 3438).

475. Busbee, M.C. (1976). Symbolic language transfer in the autistic child. University Microfilms International, P.O. Box 1346, Ann Arbor, MI 48106.

The major tenet of the study, that the procedures used in training would have a positive effect on the learning acquisition of an untrained response in six autistic children, was not substantiated; however, further analysis of the training steps showed that Ss consistently performed better as training continued. (From ECEA, 1978, 9 (4), Abstract No. 093508).

476. Cantwell, D.P., & Baker, L. (1978). Imitations and echoes in autistic and dysphasic children. Journal of the American Academy of Child Psychiatry, 17 (4), 614-624.

Echolalic language of 12 autistic and 12 dysphasic males (6 to 11 years old) was analyzed from interactions with their mothers. The six Ss having the most language were selected and compared with the six Ss having the least language. The amount and types of echoes used by Ss were somewhat, although not significantly, different in the high and low language groups, with mitigated echoing higher in high language Ss and congruent echoing higher in the low language Ss.(From ECEA, 1979, 11 (3), Abstract No. 113627).

477. Cantwell, D., Howlin, P., & Rutter, M. (1977). The analysis of language level and language function: A methodological study. The British Journal of Disorders of Communication, 12 (2), 119-135.

Reported is a method of analyzing speech and language in young children which encompasses both development level and abnormalities in usage. Available measures of language level and language function and usage, most of which involve studies of autistic children, are reviewed. The present method examines children's language level by analyzing the acquisition of several simple morpheme, phrase-structure, & transformational rules expressed in spontaneous utterances. Language function and usage are measured through a modification of the framework developed by M.A. Cunningham ("A Comparison of the Language of Psychotic and Non-Psychotic Children Who Are Mentally Retarded," Journal of Child Psychology & Psychiatry, 1968, 9, 229-244). Language samples were once again collected with the child speaking spontaneously, usually to his mother in the home environment. Validity of results is determined through: (1) temporal stability, (2) association with other measures, (3) sensitivity to changes, & (4) differentiation between different language problem groups. (From LLBA, 1979, *13* (4), Abstract No. 04710).

478. Caparulo, B., & Cohen, D. (1977). Cognitive structures, language, and emerging social competence in autistic and aphasic children. *Journal of the American Academy of Child Psychiatry*, *16*,620-645.

The autistic child's impairments evident during sensorimotor development may later become masked by peculiarities in language and social attachment and by contrasting talents in specific, isolated areas. In aphasia, the cognitive structures necessary for social attachment and early symbolization are relatively intact. Conceptual development is limited by linguistic handicaps and may eventually resemble the thought disturbance of childhood psychosis. Meticulous observation of language-deviant children over long periods of time, guided by theory of normal linguistic and cognitive development, can reveal underlying competencies and patterns of dysfunction and help clarify the structural basis and functional significance of syptomatic behavior. (From CDA, 1978, *52* (5-6), Abstract No. 1278).

479. Carr, E.G. (1979). Teaching autistic children to use sign language: Some research issues. *Journal of Autism and Developmental Disorders*, *9* (4), 345-359.

Three questions regarding the use of sign language as an alternative communication system for nonverbal autistic children are examined. Data on effects on speech, the upper limits of sign acquisition, and effects on adaptive function are discussed. (From CIJE, 1981, EJ238786).

480. Carr, E.G. et al. (1978). Acquisition of sign language by autistic children. I: Expressive Labelling. *Journal of Applied Behavior Analysis*, *11* (4), 489-501.

Four nonverbal autistic children (10 to 15 years old) were taught expressive sign labels for common objects, using a training procedure that consisted of prompting, fading, and stimulus rotation. The results were reliable, replicable across children, and generalizable across therapists. A stimulus control analysis demonstrated that for three of the Ss, correct signing was controlled solely by the visual cues associated with a given object (independent of the auditory cues). (From ECEA, 1979, 11 (2), Abstract No.112843).

481. Carr, E.G., & Dores, P.A. (1981). Patterns of language acquisition following simultaneous communication with autistic children. Analysis & Intervention in Developmental Disabilities, 1 (3-4), 347-361.

A report of a treatment program (combination of prompting, fading, and stimulus rotation) design to teach receptive labelling skills to 6 nonverbal autistic children aged 6-11 years. It is suggested that modality control (speech vs. sign) and simultaneous communication might differentially affect expressive language development in autistic children. (From PA, 1982, 67 (4), Abstract No. 8526).

482. Carr, E.G. (1978, March). Acquisition of expressive sign language by autistic children. Paper presented at the Annual Meeting of the Eastern Psychological Association, Washington, D.C.

The acquistion of expressive sign language was studied in four autistic children (ages 10 to 15 years). Ss were taught expressive sign labels for common objects using a training procedure consisting of prompting, fading, and stimulus rotation. The signing of three of the Ss was found to be controlled solely by the visual cues associated with the object and to be independent of the therapist's verbalizing the name of the object. A learning set was observed such that fewer sessions were required to train later signs than earlier ones. (From ECEA, 1979, 11 (2), Abstract No. 112429).

483. Casey, L.O. (1975). Development of communicative behavior in autistic children: A parent program using manual signs. Journal of Autism and Childhood Schizophrenia, 8 (1), 45-59.

Mothers of four 6 and 7 year old autistic classmates were taught to use manual signs with verbalizations to aid development of appropriate communicative behavior and to deter undesirable behavior in children. The experimental treatment was initiated in a daily mother-child laboratory session using a multiple baseline design across Ss. The preschool classroom program remained unchanged. Data were recorded for each child daily over a 5 week period, in the classroom and in a mother-child session, on four types of inappropriate behavior. Communicative behaviors increased and inappropriate behaviors decreased in relation to baseline conditions for each child. The manual sign program facilitated generalization of communciative behavior to the child's total environment. (From ECEA, 1978, 10 (2), Abstract No. 101819).

484. Charney, R. (1980). Pronoun errors in autistic children: Support for a social explanation. British Journal of Disorders of Communication, 15 (1), 39-43.

Several authors have proposed that cognitive or linguistic deficits, rather than social ones, underlie pronoun reversals. It is pointed out that young normal children have these same limitations and still do not reverse pronouns. It is suggested that a social impairment is more likely responsible for the problem. (From LLBA, 1982, 16 (2), Abstract No. 8203444).

485. Chess, S. (1974). Clinical differentiation among children with initial language complaints. Journal of Autism and Childhood Schizophrenia, 4 (2), 99-109.

A report of one clinical practice in which children with speech disorders are brought in for psychiatric assessment earlier than children with other symptoms (peak age four to five for speech disorders as against eight to nine),and boys are referred more frequently than girls (3:1). Whether this is a function of the high language expectations of middle class parents has not been determined. Speech disorders take a variety of forms and indicate a number of possible diagnoses. In many cases, longitudinal assessment is required in order to determine the etiology of the disorder and the exact role of other associated difficulties, such as hyperactivity or behavioral problems. Good environmental handling can often minimize secondary defensive maneouvers. (From LLBA, 1975, 9 (1), Abstract No. 7502970).

486. Churchill, D.W. (1972). The relation of infantile autism and early childhood schizophrenia to developmental language disorders of childhood. Journal of Autism and Childhood Schizophrenia, 2 (2), 183-197.

Evidence and arguments are presented to support a thesis that central language deficits related to those found in children with developmental aphasia, but more severe, may be the necessary and sufficient cause of behavior which marks children as autistic and schizophrenic. Deficits which may cut across sensory modalities and differ between individuals, but remain stable within, can be identified in both groups. The two groups also share difficulties such as sequencing problems and deficiencies related to meaning of words that are more subtle than echolalia and pronominal reversal. Language deficits, however, are not the only ones, as other handicaps may account for some variability in clinical cases. Also presented are two case reports illustrating results of an experimental nine-word language used in training and testing of psychotic children. (From LLBA, 1973, *7* (1), Abstract No. 7301451).

487. Cohen, D. J. (1976). Primary childhood aphasia and childhood autism. Clinical, biological, and conceptual observations. *Journal of the American Academy of Child Psychiatry*, *15* (4), 604-645.

The conception of primary childhood aphasia and childhood autism is delineated as two parallel, but related, syndromic clusters, each with pervasive impact on development and affecting both language and social relatedness. Literature on childhood aphasia is reviewed, illustrative cases are presented, and a clinical and neurophysical model for understanding syndromes is suggested. Sections focus on congenital aphasia, developmental aphasia, acquired aphasia, etiology of primary childhood aphasia, electroencephalogram abnormalities and aphasia, behavioral disturbances in childhood aphasia, language in childhood autism, and the relationship between autism and aphasia. (From ECEA, 1978, *9* (4), Abstract No. 093329).

488. Cohen, M. (1979, April). *The Development of language behavior in an autistic child using a total communication approach*. Paper presented at the Annual International Convention, the Council for Exceptional Children, Dallas, Texas.

Following a review of the literature, the paper describes a total communication approach to the language development of a 4 year old autistic child. It is explained that the child was videotaped while being trained to simultaneously use elements of American sign language together with the correct spoken word or words. Training procedures are described for nouns, verbs, and noun-verb pairs. Among results analyzed are a drastic reduction of verbal echolalia, a marked increase in simultaneous vocal and signed labeling, an increase in unprompted vocal labeling and increases in simultaneous vocal and signed telegraphic phrasing. Followup evaluation is noted to have shown a continued low level of echolalic production and continued high percentage of both prompted and unprompted vocal labeling. (From ECEA, 1980, *11* (4), Abstract No. 115205).

489. Colby, K.M. & Kraemer, H.C. (1975). An objective measurement of nonspeaking children's performance with a computer-controlled program for the stimulation of language behavior. *Journal of Autism and Childhood*

Schizophrenia, 5 (2), 139-146.

A method is described for recording nonspeaking autistic and other children's performance with a computer-controlled audiovisual device designed to stimulate language behavior. Measurements obtained from the computer-controlled program and compared to a performance curve derived from normal children are thought to be valuable in planning treatment for and assessing progress of nonspeaking children. (From ECEA, 1976, 7 (4), Abstract No. 073565).

490. Colby, K. (1973). The rationale for computer-based treatment of language difficulties in nonspeaking autistic children. Journal of Autism and Childhood Schizophrenia, 3 (3), 254-260.

Some principles are described which underlie a computer-based treatment method for language difficulties in nonspeaking autistic children. These children are assumed to be dissymbolic with a primary difficulty in processing any type of symbol, language being the most important symbolic system used in human communication. The main treatment principle involved the encouragement of exploratory play with a keyboard-controlled audio-visual display on which symbols can be made to appear accompanied by a human voice and other sounds. Adult interference is minimized so a child can self-select and self-direct his own play. Thus far, 13 of 17 nonspeaking autistic children have shown linguistic improvement. The four cases of failure to improve were children who refused to play with the display device. (From LLBA, 1974, 8 (1), Abstract No. 7403131).

491. Coleman, S.L., & Steman, J.M. (1974). Use of a peer model in language training in an echolalic child. Journal of Behavior Therapy and Experimental Psychiatry, 5 (3-4), 275-279.

A report of an experiment in which a 10 year old girl, carrying the diagnostic label of childhood autism, was trained to speak at normal voice volume and acquired labeling vocabulary, via an imitation learning paradigm which utilized a peer model. Results indicate that the modeling paradigm facilitated both volume training and label acquisition. (From LLBA, 1975, 9 (1), Abstract No. 7503021).

492. Coppage, K.W. & Veal, M.C. (1979). Establishing functional language in an autistic child: A cooperative approach. Journal of Communication Disorders, 12 (6), 447-460.

Presented is a case study of a 7-year-old diagnosed as

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autistic. Cooperative efforts of a teacher of the severely emotionally disturbed, a speech pathologist, & the child's parents created an optimal situation for the facilitation of behavior change and language development. Examples of the procedures used and child's progress over a period of 2.5 years are presented. (From LLBA, 1982, 16 (3), Abstract No. 8205146).

493. Cox, A., Rutter, M., Newman, S., & Bartak, L. (1975). A comparative study of infantile autism and specific developmental receptive language disorder: II. Parental characteristics. British Journal of Psychiatry, 126, 146-159.

Investigated parental characteristics of autistic boys (aged 5-10 years) without evidence of mental retardation or neurological defects and matched a sample of autistic boys with severe receptive language disorders. Results indicated no differences between the two groups and it is concluded that parental characteristcs do not appear to be a significant factor in the development of autism. (From PA, 1976, 56 (2), Abstract No. 9999).

494. Creak, M. (1972). Reflections on communication and autistic children. Journal of Autism and Childhood Schizophrenia, 2 (1), 1-8.

The autistic child's inability to communicate effectively is discussed briefly from the viewpoint that complete human communication (thought transfer) involves more than the correct use of words. (From CIJE, 1972, Abstract No. EJ057571).

495. Cunningham, M.A., & Dixon, C. (1961). A study of the language of an autistic child. Journal of Child Psychology and Psychiatry, 2, 193-202.

The retarded language of an autistic child of 7 years was recorded and compared with the language of normal children from 24 to 30 months. The child showed progress over a 6 month period in length of sentence and variety of words used, but his sentences remained very incomplete. He used language much less than the normals for conveying or asking for information and much more to repeat the adult's remarks or his own. His language was monotonous in its content. He used more nouns and far fewer pronouns than the normals. He used fewer personal pronouns, but seemed able to use personal pronouns correctly on rare occasions. (From CDA, 1963, 37 (1-2), Abstract No. 194).

496. Cunningham, M.A. (1966). A five-year study of the

language of an autistic child. *Journal of Child Psychology and Psychiatry*, *7* (2), 143-154.

Observation of an autistic child over five years showed an initial advance in his use of language, soon after he started to speak, followed by four years when little progress was made. There was a relatively large amount of speech used for other purposes than communication, repetition being particularly frequent. There was difficulty in constructing grammatical sentences, in mastering personal pronouns, and some difficulty in understanding. (From LLBA, 1967, *1*, p. 842).

497. Curcio, F. & Paccia-Cooper, J. (1981). Response sets in autistic echolalia. *Perceptual and Motor Skills*, *53*, 78.

Results support the notion of an echolalic response set among autistic children. (From CDA, 1982, *56* (5-6), Abstract No. 2201).

498. Dagoni-Weinberg, E. (1969). From total isolation to social communication: Treatment of a case of early infantile autism. *Acta Paedopsyciat., Basel*, *36* (5), 153-165.

The author describes a case of early infantile autism; a little girl aged 3 1/2 years who after treatment of nearly four years could be seen as able to communicate affectively and socially with the environment. The language development is followed up closely; it progressed from total mutism to a personal "jargon" and further on to echolalias, alternating with broken language in an open attempt to speak. Finally, well constructed language appeared, and "you" has been replace by "I" showing the gradual growth the child has been able to fulfill. The formerly rejecting family could by and by be persuaded to change the negative attitude and secure her the due place in the house; in that way a former stay in a children's home could be changed for her own environment. School attendance became possible, and the attachment to friends there was noticed. Treatment was child-centered, but also towards the home-mother, then to the family and included also the escort that brought the child to the session. (From LLBA, 1970, *4* (1), Abstract No. D00745).

499. Davis, B.J. (1970). Differential language behavior patterns and diagnostic evaluation. *Journal of Learning Disabilities*, *3* (5), 264-275.

Twenty-four language handicapped children (aged 3.2-6.2 years) were examined by means of clinical observations, performance on the language inventory, and administration of the Vineland Social Maturity Scale to their parents. On the basis of these measurements, categories of autistic, schizophrenic, brain-injured, and retarded were ascribed to each individual. The diagnostic and treatment implications of differential language behavior patterns were explored, and patterns of observed behavior were emphasized as a focus in planning for clinical intervention. (From ECEA, 1970, *2* (3), Abstract No. 501181).

500. Davis, B.J. (1968). A clinical method of appraisal of the language and learning behavior of young autistic children. *Journal of Communication Disorders*, *1* (4), 277-296.

Autistic children are generally believed to be untestable or the test scores are not felt to represent the child's abilities. This paper describes a clinical approach which permits intrusion on the withdrawal and catastrophic reactions that interfere with the performance of the children and reveals a higher level of function than their overt behavior would indicate. Adaptations of standard techniques of structure like those employed with perceptually handicapped and aphasic children were used with six nonverbal, medically diagnosed autistic children, ages three to six years. All were inpatients of a residential clinical research program and were studied over a 15 mos period. The findings indicate that the use of techniques which direct sensory modality input and control the response of these children results in an increase in the frequency of voluntary responses, and in more appropriate methods of responding to certain types of stimuli. It further reveals specific areas of functional deficits in the learning process that are amenable to training. The change in the children, as reflected by the results of this approach, is seen as an increase in competency in tasks involving the processing of sensory information andin their social behavior. (From LLBA, *3* (1), Abstract No. C03401).

501. Deaton, A.V. (1978, May). *Language impairment in autistic children*. Paper presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, Illinois.

Discussed is the language impairment of children with infantile autism. The speech patterns of autistic children, including echolalia, pronomial reversal, silent language, and voice imitation, are described. The clinical picture of the autistic child is compared to that of children with such other disorders as deafness, retardation, and developmental aphasia. The idea of an organic etiology in autism is briefly considered, and other possible explanations of the language impairment are examined. A brief outline of verbal imitation training is presented, using prompts and the operant conditioning paradigm on shaping. (From ECEA, 1979, 11 (1), Abstract No. 111396).

502. Dedonder, N. (1973). Essai de'analyse des productions vocale de trois enfants autistes dits 'mutiques" (Fr.). Attempt at analysis of the vocal productions of three autistic children called "mutics". Le Langage et l'Homme, 21, 8-11).

A consideration of the vocal universe of the autistic child, the so-called "mutic," as manifested by cries, grunts, and noises. Like Wakstein and Pronovost, "vocalization groups" are opposed by "speaking groups" composed of autistic children emitting a comprehensible language. The corpus is a significant, and could be studied in terms of denotation and connotation. It deals with the world in a proper fashion; each of its parts contains this manner of approach. The general approach of this analyzed body could be rediscovered in synthesis. The common point of reference is the image of the body which justifies the classifications of logopedic research. The logopedic examination involved a study of the vocal apparatus: (1) buccal space: horizontal or the anterior-median-posterior problem, and vertical or the open-closed problem; (2) time; and (3) tension. Logopedic work is not exclusively descriptive. It is pursued in an analysis of th sound chain, the passage of one sound to another, and the set of movements of the vocal apparatus. To discover the vocal universe of an autistic child by the approach proposed is rich and significant. The parallel problem of preferential utilization of certain phonemes and the absence of others rests equally on research. Results corroborate those obtained by Wakstein and Pronovost. (From LLBA, 1973, 7 (2), Abstract No. 7305918).

503. De Villiers, J.G. (1974). Teaching a symbol language to autistic children. Journal of Consulting and Clinical Psychology, 42 (1), 111-117.

A discussion of a strict training procedure used to advance language in two language-deficient autistic children. A "particle language," consisting of English words printed on magnetic board, was used to map the interaction between Ss and E, which led to food reinforcement. The domain of the interaction was expanded to include the comprehension and production of simple commands, descriptions, and questions. Each set was introduced by means of a training procedure which gradually admitted multiple choice. The procedure is discussed in terms of its potential advantages for training language. (From LLBA, 1974, 8 (2), Abstract No. 7404505).

504. Diatkine, R., Masse, F., & Mousset, M. (1977). Linguistigue et psychopathologie infantile (Linguistics and infantile psychopathology). Revue de

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Neuropsychiatrie infantile et d'Hygiene Mentale de l'Enface, 25 (2), 117-128.

A discussion between several psychiatrists and linguists on children's language pathologies is reported. Application of linguistic concepts to psychiatric work is not always clear or easy. Several principles of theoretical linguistics are simply not applicable to pathological situations. Problems and positive results of collaborations between psychotherapists and linguists are outlined. Speech of dysphasic children, children living in minority linguistic communities, and autistic children is examined. Certain problems encountered in dealing with some autistic children, e.g. those using only the second person pronoun, cannot be described by tenets of theoretical linguistics. However, it appears that many children with language disturbances do eventually follow "normal routes" in language, but do so in ways different from normal speakers. (From LLBA, 1979, 13 (3), Abstract No. 02988).

505. Dores, P.A., & Carr, E.G. (1979). *Sign language comprehension by autistic children following simultaneous communication training*. Paper presented at the Annual Convention of the American Psychological Association, New York, N.Y.

Six nonverbal, autistic boys (ages 6 to 11) were studied to assess what was learned when signs an spoken words were presented simultaneously. The boys were taught to discriminate among several available objects when given commands consisting of simultaneously signed and spoken object labels. Each of the six children mastered all of the discriminations that were taught. Results showed that the children varied in the extent to which they attended to the spoken words used during training. For two of the six children correct discriminative responding had been controlled solely by the signs, while spoken words had remained nonfunctional. A pretraining test of verbal imitation ability was accurate in predicting the extent to which each child would attend to both modalities. (From ECEA, 1980, 12 (3), Abstract No. 122815).

506. Dubner, H.W. (1975). Listening: A goal of therapy for the autistic child. *Rehabilitation Literature*, 36 (10), 3060307.

Language therapy for the autistic child should utilize the child's own needs to encourage listening skills which are crucial to the development of normal language patterns and interpersonal awareness. (From ECEA, 1976, 8 (1), Abstract No. 080207).

507. Dyer, C., & Hadden, A.J. (1981). Delayed echolalie in autism: Some observations on differences within the term. Child: Care, Health, and Development, 7, 331-345.

This article describes six functional categories as an aid to clear reporting of observations on delayed echolalia. (From CDA, 1982, 56 (5-6), Abstract No. 2207).

508. Edwards, J.S., et al. (1975). Differential effects of communication on operant behavior in children. Bulletin of the Psychonomic Society, 6 (1), 90-92.

Studied were the effects of nonvisual communication and listening to a story with seven children (including one 6 year old autistic S and one 7 year old retarded S) and one adult. Differential responding to a panel that produced reinforcement was acquired by all Ss in the first session. Communication by a relevant adult (mother) decreased reinforced and nonreinforced responding and increased talking; and listening to a story decreased both reinforced and nonreinforced responding but did not increase talking. Communication had no effect on any of the behaviors of an autistic child and increased the speech of a retarded child the least on the Ss who talked. (From LLBA, 1977, 9 (2), Abstract No. 0925).

509. Ekstein, R., & Nelson, J. (1974). Clinical considerations concerning the expansion of language space from the autistic to the interpersonal. Reiss-Davis Clinic Bulletin, 11 (2), 125-135.

Describes a case history of a 5-yr-old autistic female, and illustrates the importance of developing language space within a psychotherapy treatment modality. (From PA, 1978, 61, Abstract No. 3201).

510. Fay, W.H. (1971). On normal and autistic pronouns. Journal of Speech and Hearing Disorders, 36 (2), 242-249.

Ego-based explanations for the autistic child's characteristic patterns of pronominal reversals and avoidances have failed to recognize the problems faced by all children when confronted with personal pronouns. Traditional approaches rest almost entirely on inferences about presumed failure in self-resolution while ignoring the linguistic hurdles posed by shifting enotations and by the overlapping of code and message. An alternative approach, based on studies of echolalia, considers grammatical aspects of acquisition, is consequently shifted from the primacy of expressive I to the comprehension of the you/me dichotomy. (From ECEA, 1971, 3 (3), Abstract No. 032287).

511. Fay, W.H. (1969). On the basis of autistic echolalia. Journal of Communication Disorders, 2 (1), 38-47.

Three children who were selected to represent varieties of developmental, belated and autistic echolalia were followed at bimonthly intervals for repeated assessments of echoic output and verbal comprehension. In addition to comparing their performances as reflected by these measures, qualitative differences of the echolalia, per se, were examined. Characteristics, linguistic and paralinguistic, which differentiated the autistic echolalia from that spoken by the other two children were discussed in terms of both traditional affect-related explanations and a contrary language-related rationale emanating from the study and from the literature. (From LLBA, 1969, 3 (2), Abstract No. C06033).

512. Fay, W.H. (1979). Personal pronouns and the autistic child. Journal of Autism and Developmental Disorders, 9 (3), 247-260.

The long recognized difficulties of the speaking autistic child with the use and nonuse of personal pronouns ("reversals" and "avoidance") have been generally attributed either to the nondifferentiation of the self or to the frequent coexisting symptom of echolalia. These explanations are reconsidered in this eclectic analysis from the perspective of current theory and research in development of self and of language. Emphasis is on studies of normal development of personal pronouns and the roles played in that process by listening, echoic memory, mitigated echolalia (recording), and person deixis. It is concluded that multiple developmental obstacles of a social, cognitive, and grammatical nature underlie the more obvious symptoms and mitigate against the child's resolution of labels and their referents. Treatment alternatives that deemphasize the primacy of I are offered. (From ECEA, 1980, 12 (2), Abstract No. 121298).

513. Fay, W.H. (1973). On the echolalie of the blind and of the autistic child. Journal of Speech and Hearing Disorders, 38 (4), 478-489.

Of the multiple manifestations of childhood echolalia, two are remarkably similar and unique from other types: echolalia of the autistic child and of a subpopulation of the infant blind. From case studies of the echoic blind, a rationale is developed to account for these similarites and for the common bases of the behavior in both conditions. Among the variables examined are the human desire for communication, development of an audiovocal skill, arrested language development, profound difficulties in verbal comprehension and self-differentiation, consequences of sensory restriction from birth, and parental reactions to these handicaps. It is concluded that the direct effects of sensory restriction in the blind (and perhaps perceptual restriction in the autistic) tend to delay or preclude acquisition of the meaning and structure systems of language. Nevertheless, the quasisocial echoic behavior persists, reflecting the human drive to participate in communication by speech. (From LLBA, 1974, 8 (2), Abstract No. 7403052).

514. Fineman, K.R. (1968). Shaping and increasing verbalizations in an autistic child in response to visual-color stimulation. Perceptual Motor Skills, 27 (3, Part 2), 1071-1074.

It was hypothesized that systematic visual-color consequences contingent upon verbalizations would be effective in augmenting the rate of sounds as well as shaping specific words and word approximations, in a six year old autistic child. It was found that verbalizations were augmented over a base rate in a free operant situation. However, in a prompt-response contingency food was significantly more powerful in shaping specific sounds. Reasons for the difference were discussed. (From LLBA, 1969, 3 (2), Abstract No. C04192).

515. Fineman, K.R. (1968). Visual-color reinforcement in establishment of speech by an autistic child. Perceptual Motor Skills, 26 (3), Part 1, 761-762.

Data have indicated that through the use of systematic visual-color reinforcement by means of operant conditioning. A non-verbal autistic child can be taught to verbalize. Visual consequences can be used as a reinforcer to increase the rate of verbalizations. The technique could be used as a diagnostic tool in determining what sounds are already in the child's repertoire. (From LLBA, 1968, 2 (2), Page 1564).

516. Frankel, F. (1977, April). Reinforcing effects of speech attributes in autistic and mentally retarded children. Paper presented at the Western Psychological Association Meeting, Seattle, Washington.

The reinforcing properties of language were examined with four autistic and five mentally retarded children matched for mean nonverbal mental age (32 to 37 months). Ss were shaped to pull a lever which produced two seconds of a tape recorded story. The story was read with the following conditions: little pitch variance from word to word, but with normal syllable durations (atonal); each syllable of equal duration, but normal pitch variance (arhythmic); each syllable of equal duration and little pitch variance (flat); and normal syllable duration and pitch variance (normal). Differences in the relative reward values for each of the four conditions confirmed the hypothesis that abnormalities in autistic children's speech result from sources of reinforcement arising in speech production rather than in misperception of speech attributes. (From ECEA, 1978, 10 (3), Abstract No. 102665).

517. Fyffe, C., & Prior, M. (1978). Evidence for language recoding in autistic, retarded, and normal children: A re-examination. The British Journal of Psychology, 69 (3), 393-402.

In a replication and extension of earlier studies by B. Hermelin & N. O'Connor, language recoding abilities in autistic, retarded, & normal children matched for mental age & digit span were compared in a verbal recall task.

Random word lists, sentences, & anomalous sentence, 8 or 12 items in length (for high & low memory-span subgroups) were presented and the number of words recalled from each input type was scored (N=20). All low-span children recalled sentences better than random lists, with normal children superior to retarded & autistic children, & the latter poorer than the retarded group. No group differences were found among high-span children. In experiment 2 (N=10) sentences were better recalled than anomalous sentences, with autistic & retarded children equivalent in performance & both poorer than normal children. Although low-span autistic children were clearly deficient in recall of sentence material when compared with the two other groups, the effect of conditions showed that they were able to use structure to improve recall. Since high-span autistic children did not perform differently from controls, it is suggested that results from such a study are not generalizable, & that claims for a specific coding deficit in autistic children need further experimental verification. (From LLBA, 1981, 15 (1), Abstract No. 8100088).

518. Freeman, B.J. (1975). An operant procedure to teach an echolalic, autistic child to answer questions appropriately. Journal of Autism and Childhood Schizophrenia, 5 (2), 169-176.

A 5-year-old autistic boy with rapid immediate echolalia was taught to answer questions appropriately by using an operant conditioning technique. During phase 1 of the study, 40 action pictures were presented twice, and echolalic, nonecholalic correct, and nonecholalic incorrect S responses were recorded. During phase 2 in which the pictures were presented in groups of ten, correct responses were immediately given positive reinforcement while incorrect responses were prevented by using a training procedure. Phase 3 of the study repeated phase 1 procedures. Results showed a decrease in echolalic responses and incorrect nonecholalic responses during phase 2, and an increase in correct responses from 3% in phase 1 to 97% in phase 3. (From ECEA, 19767 (4), Abstract No. 073568).

519. Fristoe, M., & LLoyd, L.L. (1977). Manual communication for the retarded and others with severe communication impairment: A resource list. Mental Retardation, 15 (5), 18-21.

Following a brief one-page statement about the recent increase in use of manual communication systems with the retarded, 60 references are listed, of which three provide general references to material about the use of nonspeech communication systems. Included are: a selective listing of sign manuals developed for use with the deaf & those working with the deaf, but of value for those working with other severe communication impairments, & an exhaustive listing of 23 manuals designed especially for persons working with the mentally retarded, autistic, or multihandicapped (e.g. deaf-blind, deaf-retarded). (From LLBA, 1980, *14* (3), Abstract No. 8004619).

520. Fritsch, G.A. (1978). Analysis of semantic-syntactic complexity in echolalic autistic children. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI

From analysis of language samples from 20 echolalic autistic children it was concluded that autistic children's language impairment may stem from a limitation in a preverbal conceptualization rather than from an inability to translate knowledge into the linguistic code. (From ECEA, 1980, *11* (4), Abstract No. 115360).

521. Fulwiler, R.L., & Fouts, R.S. (1976). Acquisition of American sign language by a noncommunicating autistic child. *Journal of Autism and Childhood Schizophrenia*, *6* (1), 43-51.

Elements of American Sign Language were taught to a 5-year-old nonverbal autistic boy. Results after 20 hours of training indicated that the child did acquire signs, that increasing signing led to increasing vocal speech, and that the child had rudimentary English syntax. The use of Ameslan signs spontaneously generalized to other situations and the training resulted in increased social interaction. (From ECEA, 1976, *8* (3), Abstract No. 082028).

522. Goren, E.R., et al. (1977). A functional analysis of echolalic speech. *Behavior Modification*, *1* (4), 481-499.

Examined in two studies was the impact of antecedents and consequences on echolalic behavior in children with autistic behaviors. In the first experiment four Ss were exposed to antecedent conditions of verbal imitation, verbal response to questions, and nonverbal response to commands. In the second study, two Ss were exposed to consequent conditions of reinforcement of echolalia, punishment of echolalia, and concurrent reinforcement of appropriate verbal behavior and punishment of echolalia. Results indicated that echolalia should not be treated as a unidimensional response pattern. (From ECEA, 1978, *10* (1), Abstract No. 100102).

523. Handleman, J.S. (1981). Transfer of verbal responses across instructional settings by autistic-type children.

Journal of Speech and Hearing Disorders, *46* (1), 69-73.

The investigation assessed the generalization of verbal behavior by autistic type children (aged 5 to 12 years) across different settings.(From CIJE, 1981, Abstract No. EJ240655).

524. Hargrave, E., & Swisher, L. (1975). Modifying the verbal expression of a child with autistic behaviors. *Journal of Autism and Childhood Schizophrenia*, *5* (2), 147-154.

The Bell and Howell Language Master was used in conjunction with the Monterey Language Program to modify the verbal expression of a 9-year-old boy with autistic behaviors. Two training modes (one with a live voice and the other using a voice recorded via a Language Master) were used to train the S to correctly name up to 10 pictures presented individually. Results suggested that the child's responses to the Language Master were as good as, if not better than, his responses to the live voice presentations. In addition, observations indicated that he responded more readily to the Language Master than to the live voice presentations and his spontaneous speech also improved in other settings. (From ECEA, 1976, *7* (4), Abstract No. 073566).

525. Harris, S.L., et al. (1981). The acquisition of language skills by autistic children: Can parents do the job? *Journal of Autism and Developmental Disorders*, *11* (4), 373-384.

The mothers and fathers of 11 preschool autistic children were taught operant procedures used in teaching speech to nonverbal children. The children's speech skills were assessed twice before and once after their parents were trained. At posttreatment, the children showed significant gains in prespeech and speech skills as measured by a 21 step hierarchy of speech behaviors. Those children who had acquired at least verbal imitative skill after training made greater progress than those who had not. Although children maintained their gains in a 1 year followup assessment, there was no evidence of significant improvement beyond that achieved at the end of training. The importance of support for parents in continuing to do formal "teaching" after the training program ends was stressed. (From ECEA, 1982, *14* (2), Abstract No. 141293).

526. Hart, D. (1980). The effect of a modified over-correction technique on inappropriate speech. *Australian Journal of Developmental Disabilities*, *6* (3), 145-147.

Reports on a treatment program implemented with a 19-yr-old institutionalized autistic male designed to reduce staff training and programming. The treatment was used in set periods throughout each day and results indicated a decrease of inappropriate behaviors and generalization to other staff members. (From PA, 1981, 66 (2), Abstract No. 8511).

527. Hartung, J.R. (1970). A review of procedures to increase verbal imitation skills and functional speech in autistic children. Journal of Speech and Hearing Disorders, 35 (3), 203-217.

A paper written as a reaction to limitations in the literature concerning the verbal conditioning of nonspeaking children, primarily those whose condition is diagnosed as infantile autism. Its objectives are: (1) to demonstrate the importance of establishing verbal behavior in nonspeaking autistic children; (2) to discuss some of the theoretical foundtions underlying verbal conditioning; (3) to review in detail the procedures and related theoretical implications. First outlined are: The Vital Importance of Speech for Recovery; The Role of Imitation in Functional Speech; and the Failure to Imitate. Stages and Trends in Conditioning covers the topics: The Training Environment; The Limitation of Disruptive Behavior; Conditioning Attention and Eye Contact; the Transition from Motor to Verbal Imitative Behavior; The Systematic Selection of Vocal Responses; Establishing Control Over Vocal Responses; The Sudden Emergence of Echolalia; The Phenomenon of Silent Speech; the Transition from Imitation to Naming; Answering Questions; The Establishment of Phrases; Conditioning Functional Speech; and Imitation as a Precursor of Identification. (From LLBA, 1971, 5 (1), Abstract No. E00142).

528. Hewett, F. (1965). Teaching speech to an autistic child through operant conditioning. American Journal of Orthopsychiatry, 35, 927.

529. Hingtgen, J.N., & Churchill, D.W. (1969). Identification of perceptual limitations in mute autistic children: Identification by the use of behavior modification. Archives of General Psychiatry, 21 (1), 68-71.

Reports of a training program designed to increase movement and vocalization behavior of four male autistic boys (4-5 years of age). It is suggested that the behavioral paucity associated with infantile autism may be related to fundamental disturbances of perceptual processes. (From PA, 1970, 44 (1), Abstract No. 2589).

530. Hirator, A. (1977). Behavior therapy approach to the therapeutic education of an autistic child: A process

of speech training. Japanese Journal of Educational Psychology, 25 (2), 104-115.

The results of a verbal behavior modification program implemented with an eight-yr-old mute autistic male are discussed. While the program had little effect on speech development, gains in coordination and discrimination ability were observed. (From PA, 1980, 64 (2), Abstract No. 1285).

531. Howlin, P. (1982). Echolalic and spontaneous phrase speech in autistic children. Journal of Child Psychology and Psychiatry, 23, 281-293.

Echolalic phrases were longer than their spontaneous speech in very brief utterances but not for higher levels of language development. The frequency of echolalic phrases was less than that of spontaneous remarks and declined as children advance in linguistic competencies.(From CDA, 1983, 57 (1-2), Abstract No. 740).

532. Howlin, P.A. (1981). The effectiveness of operant language training with autistic children. Journal of Autism and Developmental Disorders, 11, 89-105.

A review of recent studies suggests that misleading conclusions may have been drawn about the effectiveness of treatment. The effects of therapy vary according to the linguistic competence of the children involved and the different aspects of language ability being taught. (From CDA, 1982, 56 (1-2), Abstract No. 591).

533. Howlin, P. (1981). The results of a home-based language training programme with autistic children. British Journal of Disorders of Communication, 16 (2), 73-88.

Presents the implementation of assessment techniques described earlier by the author (see PA vol 60:10747) for analyzing language level and function in young autistic children. Results indicated improvement in communicative ability rather than in basic language level. These findings are discussed in terms of understanding the primary delay in autistic children. (From PA, 1982, 67 (2), Abstract No. 4143).

534. Hurtig, R. (1982). The communicative function of question production in autistic children. Journal of Autism and Developmental Disorders, 12, 57-69.

Children diagnosed as autistic and who were also reported to be using questions inappropriately in their conversations with adults were each placed in a a conversational context in which the adult responses to their questions were systematically varied. Differential listener response did affect the occurrence of conversational communication and to a lesser degree the amount of continuation. (From CDA, 1983, 57 (1-2), Abstract No. 741).

535. Japanese Society of Child & Adolescent Psychiatry (1980). 20th Congress of the Society of Child and Adolescent Psychitry. *Japanese Journal of Child & Adolescent Psychiatry*, *2* (1), 68 p.

Presents a series of reports, lectures, and/or symposia on the development of speech and its disorder in childhood autism, as outlined in a meeting of the 20th Congress of the society of Child and Adolescent Psychiatry. (From PA, 1981, 66 (1), Abstract No. 1442).

536. Jellis, T. (1972). The back projection of kaleidoscopic patterns as a technique for eliciting verbalizations in an autistic child-A preliminary note. *The British Journal of Disorders of Communication*, *7* (2), 157-162.

An outline of the problems presented by the use of the operant conditioning of verbal responses in the case of David, a four year old boy, diagnosed as autistic. A piece of technical apparatus designed to overcome these problems is described. The results were encouraging in that: (1) The reinforcement given by the apparatus proved to be durable; and (2) There was some evidence to suggest that the effects produced in the experimental room had generalized to other situations. (From LLBA, 1973, 7 (2), 157-162).

537. Jellis, T., & Grainger, S. (1974). The back projection of kaleidoscopic patterns as a technique for eliciting verbalizations in an autistic child: A final note. *The British Journal of Disorders of Communication*, *9* (1), 65-68.

The results of sessions 14 to 30 using the back projection of kaleidoscopic patterns to elicit verbalizations in David, a four year old boy diagnosed as autistic, are outlined. They indicate the long term durability of the kaleidoscope's distracting and reinforcing properties and its use in fostering the growth of attention span. In overview, the results of this work highlight the possibility that one of the roles of babbling in a child's acquisition of language is in the development of the natural rhythms of a normal speech form. (From LLBA, 1975, 9 (1), Abstract No. 7502121).

538. Jones, K.R. (1979). A rebus system of non-fade visual language. Child: Care, Health and Development, 5 (1), 1-7.

The Non-Fade Visual Language system, which involves rebuses (symbols or pictures representing entire words), is being used to develop communication skills in autistic and severely mentally handicapped children. The system does not require the manual dexterity involved in signing systems but does require skills in visual attention, visually directed teaching, and prehensility. Teaching involves one-to-one contact with contingency reinforcement procedures accompanied by normal prompt and fade techniques. Instruction takes place in four stages - from placing the object (such as an apple) on the table for the child to examine, to the child pickin up the rebus "apple" and placing it on the felt board (receiving a piece of apple as reinforcement). (From ECEA, 1980, 11 (4), Abstract No. 114450).

539. Kehrers, H.E. (1977). Idea and speech content of autistic children. (German). Acta Paedopsychiatrica, 43 (1), 15-22.

540. Kehrers, H.E., & Korber, H.P. (1971). Sprachbehandlung durch verhaltenstheapie bei autistisch-mutistischen kindern (Ger.). Speech treatment by means of behavior therapy with mute autistic children. Acta Paedopsychiat., Basel, 38,(1), 2-17. Abstr. in Ger., Engl., Fr., & Span.

Two boys (6;2 and 5;4 years old) with the syndrome of Autismus infantum, with no obvious organic etiology in the elder patient, but with cerebral damage, in the younger, probably following up vaccination encephalitis, were treated using operant conditioning during five periods of 21 days each. Both patients were mute before treatment. First their capacity for imitation was systematically strengthened, then simple sounds, after that working up to the stage of echolalia, next words and sentences of 2 to 3 words as appropriate speech were practiced. As reinforcers the following were offered: fruit juice, chocolate, and verbal appraisal. At the end of the treatment the elder boy had a vocabulary of 41, the younger of 24 intelligently used words. (From LLBA, 1971, 5 (4), Abstract No. E05207).

541. Kilman, B.A. (1978). The communicative competence of autistic adolescents. University Microfilms International. P.O. Box 1346, Ann Arbor MI, 48106.

Three aspects of communicative competence were examined:

awareness of the functional potential of speech sounds, production of socialized or nonegocentric speech in social settings, and use of techniques to sustain discourse over a series of turns. Among the findings was that the development of communicative competence of the five Ss was no more advanced than that of normal preschool children. The findings are discussed in terms of a presumed neurophysiological defect which disrupts development of the analogues of language within the communicative network between the autistic infant and parent. (From ECEA, 1979, 11 (3), Abstract No. 114358).

542. Knight, M. (1975). Dyslexia to autism: The story of a small experiment. Australian Children Limited, 5 (1), 10-18.

A speech therapist describes the Montessori inspired treatment program she devised for her autistic patients with perceptual difficulties. She uses examples of behavior and activities to illustrate the problems autistic children may have with laterality and other perceptual motor functions. Her approach is characterized as a concrete one in which children learn to handle and manipulate language by the use of mobile alphabets, learn to recognize and match the individual letters of the alphabet by sight and then by sound, and learn to group letters into simple and meaningful words. Certain instances of disruptive behavior recounted in the case histories are viewed as compensatory activity induced by frustrated intelligence. (From ECEA, 1976, 7 (4), Abstract No. 073275).

543. Konstantareas, M. (1977). Simultaneous communication: An alternative to speech training with autistic children. Journal of Practical Approaches to Developmental Handicap, 1 (1), 15-21.

A simultaneous verbal and gestural approach to communication was used with 11 autistic children (5 to 10 years old). During the four step sequence of training, Ss' progress in ongoing communication was monitored with particular emphasis given to signing. Among findings were that children's progress was varied and different children performed in different ways. (From ECEA, 1978, 10 (2), Abstract No. 101494).

544. Konstantareas, M., Hunter, D., & Sloman, L. (1982). Training a blind 10-yr-old autistic child to communicate through signs. Journal of Autism and Developmental Disorders, 12, 1-11.

In the present case, signs were used successfully with a blind 10-year-old autistic girl. After 8 months of training, she was able to acquire a functional sign vocabulary, relying primarily on the tactile-kinesthetic and auditory modalities. This newly acquired skill had a beneficial impact on the child's general functioning. (From CDA, 1983, 57 (1-2), Abstract No. 745).

545. Konstantareas, M., & Leibovitz, S.F. (1981). Early communication acquisition by autistic children: Signing & mouthing vs. signing & speaking. *Language Studies*, *31*, 135-154.

Compares the effectiveness of a visual only approach (mouthing and signing) with a simultaneous visual and auditory approach (signing and speaking) in teaching autistic-like children to communicate. Results suggest the simultaneous approach may be superior. In addition, receptive abilities precede expressive. Implications of therapeutic intervention with low-functioning autistic children are discussed. (From CIJE, 1981, Abstract No. EJ247264).

546. Konstantareas, M., Oxman, J., & Webster, C. (1977). Simultaneous communication with autistic and other severely dysfunctional nonverbal children. *Journal of Communication Disorders*, *10* (3), 267-282.

Use of simultaneous communication (gestures plus speech) with autistic children was examined by exposing Ss (N=5) aged 5 to 8 years to a 30-hour a week, 5-week training program. Establishment of simultaneous communication involved (1) S's modeling of gestures used by the therapist; (2) self-reproduction of gestures with prompting; (3) phasing out of the prompt; (4) encouragement to respond more accurately to verbal & signed messages. Four Ss showed marked gains in their ability to communicate over the 5-week period. As in acquisition of speech in normal children, symbols for concrete Ns & action Vs were acquired early in simultaneous communication, & many more gestures were understood than could be reproduced spontaneously. Findings indicate that success with simultaneous communication requires continuous exposure, but there is also clear implication that autistic children are not homogenous & need individual treatment strategies. Future research should investigate the effects of verbalization on gestures. (From LLBA, 1980, 14 (4), Abstract No. 8005927).

547. Konstantareas, M., Webster, C., & Oxman, J. (1979). Manual language acquisition and its influence on other areas of functioning in four autistic and autistic-like children. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *20* (4), 337-350.

Describes a 9-month communication training program implemented with four nonverbal 8-10 yr-old autistic children. Results indicated significant gains in signing ability, communication, social, self-care, and related abilities. (From PA, 1979, 65 (1), Abstract No. 3922).

548. Krantz, P.J., et al. (1981). Teaching complex language to autistic children. Analysis & Intervention in Developmental Disabilities, 1 (3-4), 259-297.

Investigated the effects of a shaping procedure (Exp. 1) designed to produce more complex grammatic speech in 10 autistic children (5-13 yrs of age). Exp. II examined the effects of a procedure designed to teach children to answer wh-concept questions (what, why, and how), and designed to help children report on past events using "paragraphic speech". Results are discussed in relation to the future use of such language programs. (From PA, 1982, 67 (4), Abstract No. 8546).

549. Krug, D. et al. (1979). Evaluation of a program of systematic instructional procedures for preverbal autistic children. Improving Human Performance Quarterly, 8 (1), 29-41.

Instructional variables of program content, sequence, and time were carefully controlled over three years for 18 autistic children. The program which employed a one-to-two teaching format, focused on language instruction. Students made significant language age gains over 24-month training periods. References are listed. (From CIJE, 1979, Abstract No. EJ206849).

550. Kurokawa, S., Shirataki, S., Shima, S., & Sugiura, Y. (1980). A developmental study of the language behavior of autistic children: An approach from the cross-sectional study. Japanese Journal of Child & Adolescent Psychiatry, 21 (2), 129-140.

Examined the development of language abilities in 41 autistic children. The development of non-verbal gestural communication, verbal communication, imaginary play, and syntactic abilities are discussed. (From PA, 1981, 65 (2), Abstract No. 12923).

551. Lavigna, G.W. (1977). Communication training in mute autistic adolescentes using the written word. Journal of Autism and childhood Schizophrenia, 7 (2), 135-149.

The expressive and receptive use of three written words was taught to three mute autistic adolescents using a procedure based on H. Terrace's errorless discrimination model and D. Premack's language training with chimps. Expressive language was measured by the S's selection of the appropriate word card from among the available alternatives when the corresponding object was presented. Receptive language was measured by the S's selection of the appropriate object from among the available alternatives when the corresponding word card was presented. The sequence of the presentations and the order of placement of the available alternatives were randomized. The three Ss required 979, 1,791, and 1,644 trials, respectively, to master both the expressive and receptive use of the three words. the correct response rates for the three Ss over the entire training program were 92%, 92%. and 90% respectively. It was concluded that, as concrete visual symbols, written words may provide a viable communication system for the mute autistic. (From ECEA, 1978, *10* (1), Abstract No. 100337).

552. Laxer, G. (1981). Autisme et communication: communication linguistique et communication non linguistique (Autism and communication: linguistic and nonlinguistic communication). *Neuropsychiatrie de l'enfance et de L'adolescence*, *29* (4-5), 251-154. (FRE)

Two cases of autistic mute children are reported, one of whom presented auto-mutilation & the other an aggressive attitude. Verbal and nonverbal therapies with these children resulted in favorable progress. The importance of nonverbal communication in such cases is noted. (From LLBA, 1982, *16* (4), Abstract No. 8206977).

553. Layton, T.L., & Baker, P.S. (1981). Description of semantic-syntactic relations in an autistic child. *Journal of Autism and Developmental Disorders*, *11* (4), 385-399.

The longitudinal study investigated the language acquisition strategies employed over 1-1/2 years by an 8 year old autistic child learning sign language. The child's core vocabulary and developing semantic-syntactic relationships were compared with language acquisition in normal children. There were specific deviations in language development noted, in spite of providing the child with appropriate sign language training. (From ECEA, 1982, *14* (2), Abstract No. 141294).

554. Litchman, M.D. (1976). The use of music in establishing a learning environment for language instruction with autistic children. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI 48106.

Recorded nursery rhyme music treatment sessions resulted in statistically significant gains in the language comprehension scores of 20 autistic and severely retarded children. (From ECEA, 1978, 10 (2), Abstract No. 102036).

555. Lord, C., & Baker, A.F. (1977). Communicating with autistic children. Journal of Pediatric Pscyhology, 2 (4), 181-186.

The delayed and disordered language of autistic children is discussed as it affects the delivery of health care and other services in interdisciplinary settings. Current research is reviewed in terms of the following four major areas associated with early childhood autism: language delay, need for sameness, and impairment in social and informal processing skills. Within this framework, methods for communicating with autistic children in health-care settings are presented. (From ECEA, 1979, 11 (1), Abstract No. 110886).

556. Lovaas, O.I., Varni, J.W., Koegel, R.L., & Lorsch, N. (1977). Some observations on the nonextinguishability of children's speech. Child Development, 48 (3), 1121-1127.

It was hypothesized that reinforcing stimuli which maintain high speech rates may involve sensory stimulation generated by the behavior itself rather than by extrinsic events alone. Psychotic & normal children were placed in a variety of environments & their verbal behavior recorded while they were alone, with no apparent social reinforcement for speech. Three autistic children of various ages & three normal children, average age four years, participated in the study. Data indicated very little change in the Ss' verbal output over rather extensive observations. It is suggested that verbal behavior may in part provide its own source of (sensory) reinforcement. Data are strengthened by the fact that they are consistent across both psychotic & normal children, & in a wide variety of environments. (From LLBA, 1979, 13 (1), Abstract No. 00008).

557. Mahoney, G.J. (1975). Ethological approach to delayed language acquisition. American Journal of Mental Deficiency, 80 (2), 139-148.

Language is initially a social or communicative event that develops from the nonverbal communication system existing between the caretaker & child. While language in an adult speaker is used for reasons other then social, the communication function is the primary source for language acquisition, other functions being derived from this basic function. Studies are cited which suggest that the normal process of language acquisition may be conceived heuristically in terms of an ethological or psychosocial framework. Two ethological or psychosocial concepts may be adapted to the study of language acquisition: fixed action patterns, which are not unlike reflexes, & sign-stimuli, which symbolically represent the actor's needs or intentions. The ethological approach to language acquisition suggests that noncognitive, interpersonal factors may be major contributors to slow language development among mentally retarded & autistic children. In language-intervention programs there are 2 major approaches: operant conditioning & behavioral-linguistic (which integrates technology with language development theories). The ethological approach is based instead on the principle that language develops from social interaction; that is, ethological language intervention programs should be rooted in developmental & linguistic-environmental principles. (From LLBA, 1976, 10 (1), Abstract No. 7601086).

558. Marshall, N.R., & Hegrenes, J. (1972). The use of written language as a communication system for an autistic child. Journal of Speech and Hearing Disorders, 37 (2), 258-261.

Recent clinical practice has resulted in the development of a procedure to facilitate nonverbal language acquisition in an autistic child. Failure of therapeutic procedures to pursue an alternative communication system, written functional communication. A patterned language program was initiated to: (1) develop a beginning functional vocabulary with word cards; (2) determine the correct semantic and syntactic sequencing of the word cards; and (3) transfer the concepts learned with the word cards to written communication. Patterned written language seems to be an effective means of developing a secondary communication system for certain types of nonverbal children. (From LLBA, 1972, 6 (2), Abstract No. 7206646).

559. Marshall, N.R., & Hegrenes, J.R. (1970). Programmed communication therapy for autistic mentally retarded children. Journal of Speech & Hearing Disorders, 35 (1), 70-83.

A description of the goals and procedures of a communication therapy program for autistic mentally retarded children, which was developed by a team of specialists. Primary goals of therapy are discussed in terms of: (1) Looking and imitative behaviors; (2) Vocal and verbal responses; and (3) Concept formation. The physical and cultural environment of the clinical setting is discussed in terms of organization. Case studies are presented which illustrate the use and effect of an operant method of dealing with communication defects. (From LLBA, 1970, 4 (2), Abstract No. D02367).

560. Mayberry, R. (1976). If a chimp can learn sign language, surely my nonverbal client can too. ASHA, 18 (4), 223-228.

The article focuses on the use of sign language as a means of establishing communication in the normally hearing client for whom all else has failed, such as the autistic, severely retarded, and cerebral palsied. Described are some syntactic and semantic differences between American Sign Language (ASL) and English, Signing Exact English, Signed English, and Linguistics of Visual English. Suggestions are also presented for the selection of a manual communication system, the teaching of signs, and the structuring of sign language teaching. (From ECEA, 1978, 10 (3), Abstract No. 102391).

561. Mayer, R., & Romanini, M.T. (1973). Il mutismo elettivo (Ital.). Elective mutism. Neuropsichiatria Infantile, 147, 717-727.

After a review of the literature concerning the elective mutism, the pathogenic factor of the family is reconfirmed (isolation of the family unit, inversion of the parental roles), as well as dependency on the mother image and ambivalence with the authority image. The significance of the regression expressed by the phobic-obsessive symptoms is emphasized. When those symptoms appear after latency, the prognosis is more severe. (From LLBA, 1974, 8 (1), Abstract No. 7403087).

562. Mear-Crine, A.M., & Allaire, S. (1976)1 Analyse experimentale du comportement verbal des jeunes deficients. (The experimental analysis of verbal behavior among young handicapped children). Les Cahiers de l'Enfance Inadaptee, 26 (208), 15-19. (FR)

Behavioral modification of verbal behavior was given its impetus by B.F. Skinner (See Verbal Behavior New York: Appleton-Century, 1957). Skinner distinguished "tacts" & "mands," externally & internally stimulated responses, respectively. The behavioral approach has been used with autistic & Schizophrenic children. These children are almost always treated individually in a therapy room (See Risley, T.R. & Wolf, M.M., "Establishing functional speech in echolalic children" Behavior Research and Therapy, 1967, 5, 73-88). The duration of the sessions vary. Some therapists try to fix the duration of sessions, repeating them once or twice a week, or even once a day. Negative reinforcement is avoided; food is often used as a reward-it is a matter of finding something that pleases the S. The specific procedure depends on the S's linguistic level. With an autistic child of 4-1/2 , F. Hewett began simply by establishing eye contact; then during a period of 6 months he rewarded sounds that resembled words; later he taught the S to use the learned expressions in appropriate situations (See "Teaching speech to an autistic child through operant conditioning" American Journal of Orthopsychiatry, 1965, 35, 5, 927-936). Similar methods have been used by other therapists. Though these methods seem long, a child who can utter even simple expressions such as "Hi," "Okay," & "Fine, thank you" will have a much better chance of being treated as a person. (From LLBA, 1977, 11 (1), Abstract No. 7702391).

563. Meller, N. (1969). Language therapy with an autistic nonverbal boy. Exceptional Children, 35 (7), 555-557.

Reports the results of a program initiated with a 9-year-old nonverbal autistic male, designed to develop written language abilities. It is suggested that language abilities merely reflect rote learning, and that such abilities are beyond an autistic child's capabilities. (From PA, 1970, 44 (2), Abstract No. 17019).

564. Melli, C. (1969). Per un'analisi critica del concetto di linguaggio autistico (Ital.) Toward a critical analysis of the notion of autistic speech. Lingua Stile, 4 (2), 223-233. (Abstr. in Russ. and Engl.)

The problem of autistic speech must be considered as a problem of meaning and communication. It is necessary to go beyond the classical studies on this subject which, following the Western Aristotelian tradition, have concentrated on the problem of the specific logical norm of a type of speech which, since it is non-communicative, is by definition abnormal. Such research is dissociated from the peculiarity of its own object. Autistic speech is dealt with in terms in which it realizes itself, that is, as a failure in linguistic communication, where the non-addressee is as important as the addressee. The hypothesis presented here is that in the addesser whose message is not received, a closed circuit of experience-and-words is formed; since the meaning of the word falls back on experience the relations on the basis of which the word has been chosen remain separated from the other relations which constitute the meaning of the word itself, so that the word may actually become autonomous with respect to the code, and be blocked in a stable form. This hypothesis can be tested in an indirect way: on the one hand retrospectively, through the therapeutic process, and on the other hand in the non-communicative forms of everyday speech. (From LLBA, 1970, 4 (1), Abstract No. D00580).

565. Meltzer, D. (1974). Mutism in infantile autism, schizophrenia, and manic-depressive states: The correlation of clinical psychopathology and linguistics. International Journal of Psycho-Analysis, 55 (3), 397-404.

Describes 3 case histories in order to demonstrate 5 factors purported to be an integral part of speech development. These factors (the capacity to form dream thoughts, the ability to transform such thought into expressive language, ability to label words, apprehension of external objects with qualities of psychic reality, and desire to communicate socially) and their resulting relationship to the communication defecits in autistic children is discussed. (From PA, 1977, 57 (1), Abstract No. 3489).

566. Meltzer, D. (1975). Mutism in infantile autism: A reply to the discussion by Donald Burnham. International Journal of Psycho-Analysis, 56 (2), 253.

Criticizes briefly Bunham's critique of the paper "Mutism in infantile autism, schizophrenia, and manic depressive states, the correlation of clinical psychopathology and linguistics". (From PA, 1978, 59 (1), Abstract No. 5830).

567. Miller, A., & Miller, E. (1973). Cognitive-developmental training with elevated boards and sign language. Journal of Autism and Childhood Schizophrenia, 3 (1), 65-85.

A report of a study describing cognitive-developmental training involving use of connected boards elevated three to six feet above the ground together with special language signs. The Ss, 12 boys and seven girls, were mute autistic children. Thirteen were in residential treatment and six attended day school. Signs were systematically paired with appropriate spoken words which all children learned to understand. Also, all learned to initiate signs to achieve desired objects or goals. The day school children, a younger group achieved significantly greater expressive use of signs and words than residential school children. Two children, whose case histories are summarized, made the transition from signs to expressive spoken language. The training program is discussed in some detail. (From LLBA, 1974, 8 (1), Abstract No. 7401742).

568. Miller, S.B., & Toca, J.M. (1979). Adapted melodic

intonation therapy: A case study of an experimental language program for an autistic child. Journal of Child Psychiatry, 40 (4), 201-203.

Reports on an experimental language treament utilized with a 3-yr-old nonverbal autistic male. Through the use of signing and an intoned rather than spoken verbal stimulus, the child was eventually able to spontaneously emit verbalizations. (From PA, 1980, 64 (2), Abstract No. 8367).

569. Moores, D.F. (1978). The utilization of non-vocal communication with handicapped children. School Psychology Digest, 7 (4), 44-54.

Presents the controversial issues surrounding the use of sign language with various types of handicapped children. (From PA, 1979, 62 (1), Abstract No. 6105).

570. Morton-Evans, A., & Hensley, R. (1978). Paired associate learning in early infantile autism and receptive developmental aphasia. Journal of Autism and Childhood Schizophrenia, 8 (1), 61-69.

A comparative study of nonverbal MA matched groups of five autistic, five aphasic, five normal and five retarded children (3 to 16 years old) was made on an auditory-visual and a visual-visual paired-associate learning task. The results showed that, although the autistic and receptive aphasic children were both unable to associate sounds with their visual counterparts at the same rate as normal children, the aphasic children overcame this deficit at a significantly faster rate than autistic children. The study pinpointed one dysfunction that could subsume the severe verbal comprehension defect in autistic and aphasic children. (From ECEA, 1979, 10 (4), Abstract No. 104132).

571. Mueller, E.J., & Romeo, D. (1977). The impact of a day school program on the language development of autistic children. Paper presented at the American Education Research Assoication Meeting, Session 11.15.

Described is a program for autistic children, and presented are educational case studies of 13 children (6-9 years old). The program is explained to provide individualized instruction based on assessment using the Peabody Individual Achievement Test, B. Ruttenberg and E. Wolf's Vocalization and Expressive Speech Development Scale, L. Lee's Developmental Sentence Analysis and Scoring, and Ruttenberg and Wolf's scale for Determining the Nature and Degree of Relationship to an Adult as a

Person. Case studies provide information on child progress in language, academic, socialization, and body management skills. It is noted that strategies emphasizing manipulative materials and action-response tasks for non-verbal children appeared more effective in developing language and social learning than reading and writing activities. (From ECEA, 1977, 8 (4), Abstract No. 082479).

572. McHale, S., & Simeonsson, R. (1980). The social and symbolic quality of autistic children's communication. *Journal of Autism and Developmental Disorders*, *10*, 299-310.

The developmental status of the communicatory behavior of autistic children was assessed. Children were observed during free play sessions when teachers were present to direct the children's behavior and when teachers were absent. Results revealed that communicatory behavior were greater in the teachers' presence than in their absence and that the symbolic quality of the children's communicatory behavior increased over 8 months. (From CDA, 1981, *55* (1-2), Abstract No. 259).

573. McLean, L., & McLean, J. (1974). A language training program for nonverbal autistic children. *Journal of Speech and Hearing Disorders*, *39* (2), 186-193.

A nonspeech language training program for nonverbal autistic children is described. The two children who completed the program were able to respond differentially to a limited number of social transactions by placing appropriate plywood word symbols to describe the events on a slant tray. Interexperimenter and intersetting generalization were demonstrated, as was retention of the trained responses. (From LLBA, 1975, *9* (1), Abstract No. 7500801).

574. McMahon-Klosterman, K.M. (1976). The ability of autistic-like children and normal speaking children to comprehend the agent/action relationship and the action cue in sentence Pattern I and Sentence Pattern II. *University Microfilms International*, P.O. Box 1346, Ann Arbor MI 48106.

Results of the study comparing sentence comprehension in 25 autistic and 25 normal children (all 3 to 13 years old) indicated that teaching autisticlike children a larger labeling vocabulary (productive speech) might have limited benefit and that teaching strategies must emphasize comprehension of the verb if autisticlike children are to induce the rules of language necessary for spontaneous, meaningful language. (From ECEA, 1978, *9* (4), Abstract No. EC093523).

575. Nagao, K., Nakamura, S., & Nakan, M. (1980). The use of written language to achieve speech acquisition in an autistic child. *Japanese Journal of Child and Adolescent Psychiatry*, *21*, 201-202.

This paper reports the acquistion of spontaneous speech in a 7-year-old boy through the use of behavior therapy. Before therapy, the boy was not only mute, but he also had difficulty in phonation. As a result of the therapeutic program, the child showed development not only in speech production, but also in overall language ability. (From CDA, 1982, 56 (1-2), Abstract No. 610).

576. Nakayama, O., & Nakayama, T. (1973). Speech training of a mentally retarded child with operant procedures: I. Japanese Journal of Special Education, 11 (1), 22-30.

Reports on the utilization of an operant conditioning procedure (including making puzzles, motor and speech imitation activities, and word imitation) in order to remediate speech in and three-year-old mentally retarded and autistic child. (From PA, 1974, 52 (1), Abstract No. 3520).

577. Needleman, R., Ritvo, E., & Freeman, B. (1980).Objectively defined linguistic parameters in children with autism and other developmental disabilities. Journal of Autism and Developmental Disorders, 10, 389-398.

The language of children with autism and developmental disabilities were examined. Data analysis identified sets of parameters that were correlated with psychiatrists clinical diagnoses but failed to isolate individual parameters that have been suggested to be pathogenic. (From CDA, 1981, 55 (5-6), Abstract No. 1784).

578. Nelson, R.O., & Evans, I.M. (1968). The combination of learning principles and speech therapy techniques in the treatment of non-communicating children. Journal of Child Psychology and Psychiatry, 9 (2), 111-124.

A set of visual tactile cues was devised to aid speech-deficient children in emitting basic sounds of english. This set was incorporated into an operant speech training program in accordance with Skinner's interpretation of speech as verbal behavior. Four non-communicating children (two autistic, one educationally subnormal, one with executive aphasia) were treated over a short period (mean number of 40-minute sessions was 30); three of them showed measured improvement, one did not. The successes and failures of the program suggest that there should be a greater interaction between traditional speech therapy techniques, the principles of operant conditioning, and other findings from experimental psychology.(From LLBA, 1969, 3 (2), Abstract No. C04484).

579. Newman, R., et al. (1977). The modification of self-

stimulatory verbalizations in an autistic child through the use of an overcorrection procedure. *ASESPH Review*, *2* (3), 157-163.

Evaluated were the effects of an overcorrection procedure on the self stimulatory verbalizations of an 8 year old autistic boy. Procedures were carried out over 32 days in a classroom setting. Results indicated that this approach can be effectively used to decelerate self stimulatory verbalizations in applied settings and that the procedure does not have a detrimental influence on the development of more appropriate language. (From ECEA, 1978, *10* (2), Abstract No. 101539).

580. Nishimura, B., Mizuno, M., & Wakabayaski, S. (1980). Speech and language disorders in non-speaking autistic children. *Japanese Journal of Child and Adolescent Psychiatry*, *21*, 176-191.

Among the study's conclusions: cognitive disorder and poor communicative behavior seem to be closely related to the inability to use symbolic speech; and concerning the organization of vocal sounds, unusual consonant differentiation, absences of vowels formants, and symptoms of verbal apraxia were observed. (From CDA, 1982, *56* (1-2), Abstract No. 611).

581. Nishimura, B., Mizuno, M., & Wakabayashi, S. (1980). Nonverbal communication in non-speaking autistic children. *Japanese Journal of Child and Adolescent Psychiatry*, *21*, 267-275.

Nonverbal communication in these children during the prelinguistic stage is related to their unusual patterns of sensorimotor development. (From CDA, 1982, *56* (3-4), Abstract No. 1355).

582. Nishimura, B., Mizuno, M., & Wakabayashi, S. (1978). A longitudinal study of speech acquisition in autistic children. *Japanese Journal of Child Psychiatry*, *19* (5), 269-289.

Recorded the verbal behavior(address, response, soliloquy, repetition, vocalization, communicative intention) of 17 autistic children over a 2-yr period during play therapy sessions or training situations. Findings are discussed in relation to the relation of factors to language acquisition. (From PA, 1980, *64* (2), Abstract No. 12653).

583. Notz, R., & Storper-Perez, D. (1969). Quelques considerations sur une mthode d'analyse des

communciations non'verbales a l'interieur d'un petit groupe de'enfants autistiques. (Some considerations on the method of analyzing nonverbal communication within a small group of autistic children). *Annales Medico-Psychologiques*, *1* (2), 257-269.

Reports on findings of new techniques developed in conjunction to a study with similar objectives by C. Veil et al. (PA 43:4) in order to effectively observe, encode, and analyze nonverbal communication. (From PA, 1970, *44* (2), Abstract No. 12955).

584. Offir, C.W. (1978). Visual speech: Their fingers do the talking. *Psychology Today*, *10* (1), 72-76, 78.

Described in text and photographs is the use of sign language to develop language skills in autistic children. Noted are typical behavior patterns of the autistic child such as ritualistic stimulation, unsociability, and lack of speech. Reviewed historically are efforts (such as psychotherapy and behavior modification) to treat autism as well as the first fortuitous use of sign language with a hearing impaired autistic child. Examples are given of children successfully developing manual and sometimes speech language skills which include combining signs or words in original ways. Possible causes of autism such as overly selective attention are considered. (From ECEA, 1977, *8* (4), Abstract No. 082684).

585. Ohira, K. (1979). The context theory of autism. *Folia Psychiatrica et Neurologica Japonica*, *33* (1), 35-41.

Some linguistic phenomena observed in infantile autism are explained in terms of "context." In this model, each speech symptom can be described systematically. At the level of thought and words, paraphasic speech and the mute state are differentiated in terms of presence or absence of the substitute. At the level of symbol and what-is-symbolized, collapsed concept, similar sound neologism, and related meaning are differentiated in paraphasic speech in terms of presence or absence of the substitute. Echolalia is a special case on this level. Consequences of autism onset at various stages in language acquisition are discussed. One or more of three kinds of speech (egocentric, inner & external) may be affected with context cessation. (From LLBA, 1980, *14* (4), Abstract No. 8005933).

586. Okada, S., & Kaku, R. (1980). The relationship between autistic symptoms and gogi (word-meaning) disturbances. *Japanese Journal of Child and Adolescent Psychiatry*, *21*, 276-283.

We analyzed spoken expressions of 11 autistic children, many of whom were left-handed or showed peurile changes of phonemes, and we found some symptoms similar to those of adults with gogi disturbances. (From CDA, 1982, *56* (3-4), Abstract No. 1358).

587. Oxman, J., et al. (1978). The perception and processing of information by severely dysfunctional and nonverbal children: A rationale for the use of manual communication. *Sign Language Studies*, *21*, 289-316.

The article reviews the literature on the use of manual communication with severely dysfunctional nonverbal children, including autistic and autistic-like children. Studies involving such children discussed include those having to do with language and the developmental process, perception and information processing, microkinesics, and neuropsychological studies. Motivational factors and unique characteristics of sign language systems and training procedures are suggested as contributing to these children's ability to make progress within a manual communication medium. The role of linguistic retardation is stressed as central to the constellation of autistic symptoms, and manual language is recommended as an alternative mode of communication for children unable to profit speech therapy. (From ECEA, 1979, *11* (2), Abstract No. 112916).

588. Oxman, J., Konstantareas, M., & Liebovitz-Bojm, S. (1969). Simultaneous communication training and vocal responding in nonverbal autistic and autistic-like children. *International Journal of Rehabilitation Research/Internationale Zeitschrift fur Rehabilitations forschuung/Revue Internationale de Recherches de Readaptation*, *2* (2), 394-396.

Described is a program designed to test two hypotheses about the effect of simultaneous communication training on vocal responding in nonverbal children. A speech imitation task was used to assess articulation ability and willingness to vocalize after an adult prompt. Ss were 10 nonspeaking autistic & autistic-like children; 5 were enrolled in an experimental group with daily participation in a simultaneous communication program, & 5 comprised the control group & participated in a speech-oriented socialization program for the same period (7 months). Pre- & posttesting revealed that simultaneous communication training did not inhibit vocal responding; rather, these Ss showed some increase in frequency of responding to prompts while control Ss did not. The hypothesis that simultaneous communication training inhibits vocal production in such children is not supported. (From LLBA, 1982, 16 (3), Abstract No. 8205228).

589. Oxman, J., et al. (1976, May). The possible function of sign language in facilitating verbal communication in severely dysfunctional nonverbal children. Department of National Health and welfare, Ottawa (Ontario). A version of this paper was presented at the University of Louisville Interdisciplinary Conference on Linguistics (Louisville, Kentucky).

The authors support the use of manual communication with the nonverbal autistic child and suggest that the exercise of manual communication may facilitate the functioning of spoken communication. Research is reviewed in the following areas: the marked peculiarities in the autistic child's perception of and attention to stimuli within or across various sensory modalities, the distinction between mute and echolalic autistic children, the efficacy of simultaneous use of gestures and speech communication, and evidence which suggests an overlap in neural control for speaking and for certain activities of the upper limbs. An experiment in which 11 autistic children given gestural training showed progress in the frequency and clarity of verbalization is discussed, and a general model for the logical and physiological interconnection of speech and graphic language systems is mentioned. (From ECEA, 1977, 9 (2), Abstract No. 091582).

590. Paccia, J., & Curcio, F. (1982). Language processing and forms of immediate echolalia in autistic children. Journal of Speech and Hearing Research, 25, 42-47.

We found that the incidence of echolalia was influenced by the type of question addressed to the child and, to a lesser extent by the child's comprehension of the specific relationships expressed in the question. (From CDA, 1982, 56 (5-6), Abstract No. 1665).

591. Park, D. (1974). Operant conditioning of a speaking autistic child. Journal of Autism and Childhood Schizophrenia, 4 (2), 189-191.

A personal account of the use of operant conditioning in eradicating undesired behavior in an autistic girl. A golf-stroke counter of the type worn as a wrist watch was used to count up points. At first only positive points were given for desired behaviors. After the girl displayed more confidence, negative points were added into totals. At first, a dish of ice cream was used as the reward, but quickly the strokes accumulated became rewarding in themselves. Rewards and penalties were written in contract form each week by S and her mother. Success is attributed to the following: (1) The child's attention was directed toward only a few problems at a time; (2) The contract made no impossible demands; (3) The child was surrounded by success; (4) The child took a responsible part in her own treatment; and (5) The system utilized the peculiarites of autistic children, (i.e., interest in systems, counting, in ritual, and their literal honesty). (From LLBA, 1975, 9 (1), Abstract No. 7503020).

592. Philips, G., & Dyer, C. (1977). Late onset echolalie in autism and allied disorders. The British Journal of Disorders of Communication, 12 (1), 47-59.

An attempt is made to show that perseverating immediate echolalia (echphrasia) in children suffering from early infantile psychoses, especially autism, is a deviant form of noted normal language development, & that the key to its progressive eradication in therapy is to view the condition itself as a necessary state of language acquisition, i.e. this type of echolalia should be viewed as a late-onset manifestation of normal developmental processes, & utilized by the therapist. Case notes & observations support these ideas. It is not claimed that the deeper seated disorders in autism are in any way solved through this therapy, but they may be more effectively reached by other therapies & techniques that rely on language. Practical recommendations for therapeutic intervention are given. Through this therapy, the child's echolalia can become a useful tool & give him "access to deep structure and transformations, the lack of which is the exacerbation of the central language disorder." (From LLBA, 1979, 13 (4), Abstract No. 05994).

593. Picaizen, G., Berger, A., Baronofsk, D., Nichols, A., & Karen, R. (1969). Applications of operant techniques to speech therapy with non-verbal children. Journal of Communication Disorders, 2 (3), 203-211.

A growing body of literature deals with the application of operant conditioning techniques to speech therapy. One such area is the development of verbal behaviors in children who do not speak. Two summary case reports are presented. Techniques for the adaption of certain operant principles to such linguistic therapies are described and discussed. (From LLBA, 1979, 4 (1), Abstract No. D00032).

594. Pierce, S., & Bartolucci, G. (1977). A syntactic investigation of verbal autistic, mentally retarded, and normal children. Journal of Autism and Childhood Schizophrenia, 7 (2), 121-134.

Compared with the syntax used by ten verbal autistic children matched for nonlinguistic mental age (approximately 6 years) with a group of mentally retarded Ss and normal controls. Two different means of assessing syntactic development were utilized: Lee's Developmental Sentence analysis and Chomsky's Transformational analysis. The autistic group was found to rank significantly lower than either the mentally retarded or the normal group in terms of Developmental Sentence Scores. When a transformational grammar was used to describe the language samples of Ss the autistic children were typified by a higher error rate and lower level of complexity compared to the other two groups. However, the results also indicated that the grammatical system of autistic children is rule governed and probably not unlike that of young normal or retarded children. In conclusion, it appeared that the syntactic abnormalities characteristic of autism are attributable to an extreme delay in language development as well as to an impaired ability to make use of linguistic rules. (From ECEA, 1978, 10 (1), Abstract No. 100336).

595. Pierce, S., & Giampiero, B. (1976). Phonological production and perception in verbal autistic, normal, and mentally retarded subjects. Papers and Reports on Child Language Development, 12, 189-198.

Three groups of Caucasian Ss (normal, mentally retarded, & autistic children) had English as their native language. The groups were matched according to nonverbal mental ages (measured by the Arthur Adaption of the Leiter International Performance Scale). Language level was measured Lee's Developmental Sentence Analysis Technique. Table 1 summarizes the findings of these tests. None of the mentally retarded children showed any autistic features. Each child was given a picture naming test constructed to elicit examples of the twenty-four cons phonemes of English in initial, final, preconsonantal, & intervocalic positions. Responses were tape recorded & transcribed into the International Phonetic Alphabet. Two different tasks were used to assess the phonological perception of the Ss: (1) the Wepman Auditory Discrimination Test, which contrasts the classes of stops, fricatives, & nasals, as well as some of the vowels of English & (2) a false position test. Although the three groups showed no significant difference in mental age, the Developmental Sentence Score was significantly lower in the autistic groups, as compared to the normal group, with the mentally retarded occupying an intermediate position. The autistic group make more frequent errors than the normal & mentally retarded in the perception of liquid classes of phonemes. (From LLBA, 1978, 12 (1), Abstract No. 7800144).

596. Prior, M.R., & Hall, L.C. (1979). Comprehension of transitive and intransitive phrases by autistic, retarded, and normal children. Journal of Communication Disorders, 12 (2), 103-111.

Autistic children were compared with normal and retarded control groups (N=12 in each group) in a verbal comprehension task. Ss selected from a group of 4 pictures the one that illustrated a 4-word intransitive or 3-word transitive phrase that was described verbally. Distractor pictures differed from the target picture by one, two, or all three features. Autistic children performed poorer than the control groups. However, the hierarchy of difficulty discrimination was common to all three groups, with transitive phrases more difficult than intransitive ones. Word type did not affect comprehension for autistic children, although control children had most difficulty with the V or middle word. Results are interpreted as supporting the hypothesis that severe & global language disorder is a characteristic of autism. (From LLBA, 1982, 16 (1), Abstract No. 8201797).

597. Prior, M.R. (1977). Psycholoinguistic Disabilities of autistic and retarded children. The Journal of Mental Deficiency Research, 21 (1), 37-45.

The Illnois Test of Psycholinguistic Abilities (revised edition) was used to assess and compare language-related functioning in 20 autistic and 20 retarded children. Higher functioning groups of both diagnoses differed from lower functioning groups overall and specifically on several subtests. For both high and low functioning autistic children, verbal and manual expressive performance was particularly impoverished and indicates a severe deficit in spontaneous communicative ability. Findings were compared with those of V. Tubbs (see LLBA 1/2 p.364) and in general there was some support for her earlier and widely quoted conclusions. Implications for treatment of autistic children are suggested. (From LLBA, 1979, 13 (4), Abstract No. 05995).

598. Prizant, B., & Duchan, J. (1981). The functions of immediate echolalia in autistic children. Journal of Speech and Hearing Disorders, 46, 241-249.

It was discovered that immediate echolalia is far more than a meaningless behavior, as had been previously reported. Seven functional categories of echolalia were discovered and are discussed in reference to behavioral and linguistic features of each category. (From CDA, 1982, 56 (5-6), Abstract No. 2268).

599. Prizant, B.M. (1978). An analysis of the functions of immediate echolalia in autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

Results of a study involving a multilevel pragmatic analysis of the immediate echolalia of four autistic children demonstrated that immediate echolalia was a significant behavior serving seven different functions for the Ss, including nonfocused, turn-taking, declarative, rehearsal, self regulatory, yes-answer, and request functions. (From ECEA, 1980, 11 (4), Abstract No. 115481).

600. Pronovost, W., et al. (1966). A longitudinal study of the speech behavior and language comprehension of fourteen children diagnosed atypical or autistic. Exceptional Children, 33 (1), 19-26.

A case study approach used informal and controlled clinical observations and analyses of tape recordings during a 2 year period to develop detailed descriptions of the speech behavior, language comprehension, and general functioning of 14 institutionalized children diagnosed autistic or atypical. In speech behavior, the children could be classified as talking group, from whom identifable words were heard, or a vocalization group, from whom phonations were heard without any resemblance to words. The talking group's speech was composed almost entirely of echolalia or delayed echolalia. The vocalization group produced prolonged, monotonal, syllabic type vocalizations (consonant-vowel combinations) at extremes of high and low pitch and loudness levels with deviant voice quality. Reaction of the spoken language of adults by both groups seemed to be limited to a form of conditioned response to the total situation (i.e., to gestural, tonal, or situational clues) with no readily identifiable linguistic comprehension. The responses of the children to visual and auditory stimuli were strongly indicative of cognitive and perceptual dysfunction. (From LLBA, 1967, 1, p. 174).

601. Pronovost, W. (1966). The speech behavior and language comprehension of autistic children. A report of research. Parents School for Atypical Children, Chatham, Massachusetts. National Institutes of Mental Health 9DHEWO, Bethesda, Maryland.

Thirteen institutionalized children from 4-1/2 to 14 years old, diagnosed as autistic, atypical, or childhood schizophrenic, were observed for three years to obtain a detailed description of their speech and language behavior. Case histories were assembled from available medical and psychological data. During a program of experimental relationship therapy, controlled observations were conducted to evaluate each child's linguistic functioning. Although case studies constitute the main contribution of the research, additional findings were as follows: there was a high incidence of first born males of Jewish parents of relatively high socioeconomic status; severe family disorganization had occurred in seven of the 12 families; prior to residential placement the children had a wide range of diagnoses; many atypical medical signs were present in the children's birth histories and later diagnoses; there was a significant correspondence between reports of their behavior during the study and reports made previously by other case workers; the majority of the children exhibited indifference, unresponsiveness, minimal or no speech, stereotyped or ritualistic behaviors, hyperactive behavior, and eating and sleeping problems. Observations of speech and language suggested central nervous system dysfunction and the language deficits persisted despite the relationship therapy. (From ECEA, 1970, *2* (2), Abstract No. 003645).

602. Ratusnik, C.M. & Ratusnik, D.L. (1974). A comprehensive communication approach to a ten-year-old nonverbal autistic child. *American Journal of Orthopsychiatry*, *44* (3), 396-403.

A clinical procedure utilizing a communication board was developed for establishing and expanding nonverbal language skills as an alternate means of communication in a 10 year old nonverbal autistic child. The child's ability to learn from structured visual stimuli was incorporated in a remedial paradigm to facilitate language development and the beginnings of functional social communication. Analysis of 30 minute pre- vs. post-therapy language samples reveals remarkable increases of items in nine of 12 syntactic categories, as well as consistent formulation of kernel sentences consisting of increasingly complex transformations, possibly as a result of the remediating effects of the communication board. The communication board as an alternate means of communication has enabled the child to : (1) express simple wants and needs such as going to the bathroom, what he wants to eat for lunch, etc.; (2) give pertinent information about himself such as age; (3) become more amenable to formal testing, which allowed an audiologist to obtain a Speech Reception Threshold; (4) relate to his teachers, counselors, and parents; (5) relate how he feels (tired, happy, etc.); and (6) assume a sense of responsibility by carrying his communication board with him wherever he goes. (From LLBA, 1975, *9* (1), Abstract No. 7502115).

603. Rees, R.J. (1975). Key variables determining the

acquisition of speech by "autistic" five year old. Slow Learning Child, 22 (3), 159-172.

A program to develop speech was provided for two preschool boys showing characteristics of early infantile autism. The 9 month teaching program, in which parent involvement was encouraged, had the following objectives: establish a consistent helping relationship; reduce hyperactivity and the associated "figure-ground" problem; give Ss experiences in fine motor activities; engage each S in simple physical activity; and teach each boy to name various stimuli and then to make simple sentences. Despite similar scores on the Rimland Diagnostic Check List and the Prior and MacMillan Sameness Scale and similar therapy programs, one S improved enough to be sent to a regular school while the other remained in a special school. Differences were possibly due to dissimilar home and school environments or organic factors. (From ECEA, 1977, 8 (4), Abstract No. 082393).

604. Ricks, D.M., & Wing, L. (1975). Language, communication, and the use of symbols in normal and autistic children. Journal of Autism and Childhood Schizophrenia, 5 (3), 191-121.

Language development in both normal and autistic children is discussed in terms of the development of nonverbal communication, of speech, and of inner language. Autistic children are seen to differ in such characteristics as abnormality of expressive sounds, marked lack of interest in speech, and inability to display imaginative understanding. It is suggested that the central problem in early childhood autism is a specific difficulty in handling symbols affecting all forms of communication; and that this problem is usually associated with other impairments of the nervous system. (From ECEA, 1976, 7 (4), Abstract No. 073869).

605. Risley, T., & Wolf, M. (1967). Establishing functional speech in echolalic children. Behavior Research and Therapy, 5, 73-88.

606. Ruttenburg, B., & Wolf, E. (1967). Evaluating the communication of the autistic child. Journal of Speech and Hearing Disorders, 32 (4), 314-324.

Specific methods used for studying the areas of language and communication of the autistic child are presented. Autistic children are defined and described as are methods of evaluating communication. One of these methods, behavior-rating instrument for evaluating autistic children (BRIAC), is discussed, and various descriptive units from the BRIAC which the authors have found useful are presented. Discussed are: the nature and degree of relationship to an adult as a person using ten levels of actions, and communication, vocalization and expressive speech development. A discussion of the clinical findings is included. The characteristic profiles depicted by the scales and the inventory about speech and language apparently have differential diagnostic and prognostic importance which is reviewed. (From LLBA, 1968, 2 (2), p. 1548).

607. Salvin, A., et al. (1977). Acquisition of modified American Sign Language by a mute autistic child. Journal of Autism and Childhood Schizophrenia, 7 (4), 359-371.

An attempt was made to teach a modified version of American Sign Language to a mute 5 year old boy who had been diagnosed as autistic, had a Merrill-Palmer IQ of 65, had failed to imitate spoken language, and had no signing vocabulary. Data were collected during 20 structured sessions involving presentation of stimuli, prompting and manual guidance when necessary, and reinforcement. Continuous use of signs as communication in class and at home was emphasized. Findings at the end of the 3 month study showed the following: (1) S had mastered 12 signs; (2) Spontaneous signing frequency as recorded by parents and teachers during several 48 hour periods rose from 15 to 42 emitted signs; (3) S made 6 months' developmental progress, as measued by a sign language adaption of the Alpern-Boll Communication Scale; and (4) S made no apparent progress in acquiring spoken language. (From ECEA, 1978, 10 (3), Abstract No. 102838).

608. Savage, V.A. (1968). Childhood autism: A review of the literature with particular reference to the speech and language structure of the autistic child. British Journal of Disorders of Communication, 3 (1), 75-88.

The characteristics of autism are enumerated, and the differential diagnosis between autism and normality, deafness and blindness, mental subnormality, sensory deprivation, childhood schizophrenia, and developmental aphasia is is outlined. Etiology and treatment from the analyst's point of view (e.g. Bettleheim), in which the mother-child relationship is seen as causative, are discussed. The behaviorist theory of biological causation is seen as more tenable. Nine factors supporting the behaviorist view are cited, among them the normality of some families in which there is an autistic child, the abrupt onset of symptoms at birth, the consistent ratio of male:female 4:1, and the absence of gradations from autistics to normal. Agreement between analysts and behaviorists that a constitutional predisposition to autism must exist is noted. Various possibilities of physical disturbance (e.g. impaired glucose tolerance) are described. Among such theories, that of Rimland is seen as most convincing. Rimland believes that the autistic child is grossly impaired in the ability to relate new stimuli to remembered experience, that this may be due to damage to the reticular formation, and that children with an inborn capacity fo high intelligence are genetically vulnerable to autism. Treatment for autism now available includes psychotherapy, symptomatic treatment with drugs, speech therapy, operant conditioning, and counselling of families. (From LLBA, 1969, 3 (1), p. 241).

609. Scanlon, J., Leberfeld, D., & Freibrun, R. (1963). Language training in the treatment of the autistic child functioning on a retarded level. Mental Retardation, 1 (5), 305-310.

Investigated the effect of language and speech therapy of the development of communicative abilities in nonverbal autistic children. Findings suggest the inclusion of such techniques in communication remediation programs. (From PA, 1964, 38, Abstract No. 8658).

610. Schaeffer, B. (1980). Teaching signed speech to nonverbal children. Theory and method. Sign Language Studies, 26, 29-63.

Considers the signed speech of nonverbal children and the unsigned speech that evolves. Discusses possible explanations for signed speech as a development of linguistic functions. Makes suggestions for research on the relationship between language acquisition by nonverbal children and by normal infants. (From CIJE, 1980, Abstract No. EJ217976).

611. Schaeffer, B. (1978). Teaching spontaneous sign language to nonverbal children: Theory and method. Sign Language Studies, 21, 317-352.

Summarizes the available data on the spontaneous signing of nonverbal mentally handicapped children and discusses possible reasons for the spontaneity. Instructional techniques for promoting spontaneity are outlined, and implications of sign spontaneity for research are considered. (From CIJE, 1979, Abstract No. EJ196290).

612. Schaeffer, B., et al. (1977). Spontaneous verbal language for autistic children. Sign Language Studies, 17, 287-323.

Described is the daily treatment received by three nonverbal 6 and 7 year old autistic boys who, as a result, progressed from spontaneous sign language, to spontaneous signed speech (the simultaneous production of signs and speech), to spontaneous verbal language within 10 months. Also covered are the developments of this signed speech treatment and underlying theoretical considerations. In addition to the treatment sessions and related play periods, the article discusses the skills taught, including labeling objects, making requests, person concepts, inquiry skills, and abstractions. Detailed data on the children's spontaneous language is provided. (From ECEA, 1978, 10 (3), Abstract No. 102884).

613. Schell, R.E., et al. (1967). Development of language behavior in an autistic child. Journal of Speech and Hearing Disorders, 32 (1), 51-64.

A report on a systematic attempt to develop language behavior in a non-verbal autistic boy who was essentially unresponsive to environmental stimuli of any kind. This involved teaching him to attend, increasing his responsiveness to people, effecting discriminative responses a variety of controlled auditory and visual stimuli, increasing the extent and rate of his vocal and nonvocal behavior, and increasing the control of his behavior by verbal command. Using principles of behavior modification, a number of tasks and activities were devised to prompt, develop, and maintain these new behaviors. Results are presented showing the relative effectiveness of treatment methods to date, and these are described and discussed. The boy showed marked improvement. There was an increase in the frequency and variety of his verbal and nonverbal behavior, his behavior is more under appropriate stimulus control, and people are more frequently sources of discriminative and reinforcing stimuli for him. (From LLBA, 1967, 1, p.371).

614. Schwart, S. (1980). Language disabilities in infantile autism: A brief review and comment. Applied Psycholinguistics, 2, 25-31.

Studies of autistic children's linguistic memory reveal a special linguistic coding difficulty. (From CIJE, 1981, Abstract No. EJ247228).

615. Shapiro, T. (1977). The quest for a linguistic model to study the speech of autistic children: Studies on echoing. Journal of the American Academy of Child Psychiatry, 16 (4), 608-619.

The author reviews linguistic development in childhood autism, noting that, with autistic children, linguistic competence becomes fixated at early stages of language development because of underlying disturbances in mental structures. It is reported that focus on the autistic child's tendency to echo when confronted by incomprehensible language demands can illuminate the cognitive and social impairments of these children, and that measures of autistic children's speech can increase understanding of ego development by suggesting appropriate new models. (From ECEA, 1978, *10* (3), Abstract No. 102761).

616. Shapiro, T., & Lucy, P. (1978). Echoing in autistic children: A chronmetric study of semantic processing. *Journal of Child Psychology and Psychiatry*, *19*, 373-378.

An analysis of the discourse of 5 autistic children with an adult demonstrates that echoic speech depends on simpler, more limited decoding of adult utterances than the child's creative original speech. Two normal children show no difference in reaction times between imitative and spontaneous productions using the same measure. Autistic children apparently rely on two strategies for their language production made necessary by a cognitive deficit. (From CDA, 1980, *54* (1-2), Abstract No. 393).

617. Shapiro, T., & Huebner, F. (1976). Speech patterns of five psychotic children now in adolescence. *Journal of American Academy of Child Psychiatry*, *15* (2), 278-293.

Speech samples of five adolescents (ages: 12 to 19 years) who were diagnosed as having childhood schizophrenia of the autistic type, were analyzed and compared to earlier (8 to 12 years ago) speech descriptions. The analysis revealed patterns consisting of varying combinations of constraint in length of utterance, echoing, syntactic disturbance, semantic concreteness, context inappropriateness, and disorders of prosody. Comparison of this spectrum of disorders with a normal developmental schema indicated that childhood psychosis is best viewed as a developmental disorder. Continuity in style of deviance was demonstrated by early descriptions of these children being reliably matched to later speech samples by 10 blind psychiatrists. (From ECEA, 1979, *10* (4), Abstract No. 103946).

618. Shapiro, T., & Kapit, R. (1978). Linguistic negation in autistic and normal children. *Journal of Psycholinguistic Research*, *7* (5), 337-351.

Ss were 6 autistic children free of neurological disease whose histories of social withdrawal symptoms dated before age two & who presented speech delays. A control group included 6 Lc three-year-olds, 7 Lc five-year-olds, & 6 Mc three-year-olds. The material consisted of twelve pairs of contrasting cards designed to elicit negative responses: nonexistence, proposition denial, & rejecting feelings. Each S was individually presented with each pair & asked "What is the difference between pictures?" (production). A negative statement was produced by the examiner who asked to which card it applied (comprehension). Finally, the S was asked to repeat the examiner's statement (imitation). Results show that all children are better at comprehension than production or imitation. Only the autistic children imitated significantly better than they produced; they imitated well but they produced with less diversity than their normal counterparts. This suggests that their integrating processing of linguistic forms is poor. They are more dependent on phonetic mimicry & use syntactic forms more rigidly. (From LLBA, 1979, 13 (2), Abstract No. 01448).

619. Shigley, R.H., & Shigley, J.K. (1975). Imitative speech training of an autistic child in the home. Western Carolina University Journal of Education, 7 (1), 38-42.

Reports on the use of behavior modification techniques in order to remediate speech deficits in a 6-yr-old nonverbal child. While some success was attained, problems arose in terms of medication interference and unwillingness on the part of parents to assist in the program. (From PA, 1978, 59 (1), Abstract No. 3906).

620. Silver, E.B. (1970). Operant conditioning of speech sounds in an autistic child. South African Journal of Psychology, 1, 3-12.

Used behavioral techniques (deprivation of sweets and other foods) in order to reduce self-destructive behavior and elicit speech in a 6.5 year-old male. Findings are discussed in relation to associated problems with utilizing behavioral reinforcers. (From PA, 1973, 49 (2), Abstract No. 7643).

621. Simmons, J.Q., & Baltaxe, C. (1975). Language patterns of adolescent autistics. Journal of Autism and Childhood Schizophrenia, 5 (4), 333-351.

Analyzed language samples of 7 verbal autistic adolescents. Results indicated that musical ability is correlated with linguistic performance. (From ECEA, 1976, 81, Abstract No. 080707).

622. Simon, N. (1975). Echolalic speech in childhood autism: Consideration of possible underlying loci of brain damage. *Archives of General Psychiatry*, *32* (11), 1439-1446.

Describes research that indicates that echolalic autistic children lack specific expressive-intonational speech abilities. Neurological damage is proposed to lead to this type of disorder. (From PA, 1976, *56* (1), Abstract No. 4161).

623. Simon, N. (1978). Kaspar Hauser's recovery and autopsy: A perspective on neurological and sociological requirements for language development. *Journal of Autism and Childhood Schizophrenia*, *8* (2), 209-217.

Presents findings on a feral child who was gradually able to acquire language. These findings are purported to discredit the "critical period" theory of language development. (From PA, 1979, *62* (1), Abstract No. 3810).

624. Sonninen, A. (1968). On the fundamental prerequisites of language development. An autistic child studied by a phoniatric team. I. Reflections of the team's phoniatrician. *Folia Phoniat., Basel*, *20* (4), 207-216.

Demonstration of a problem case (autism, peripheral and central hearing loss, partly talented, partly mentally subnormal) on the basis of observations made during six years of treatment. The fundamental prerequisites of language development are discussed. (From LLBA, 1968, *2* (2), p. 107).

625. Sonninen, A., Siltala, P., & Siirala, M. (1970). On the fundamental prerequisites of language development: An autistic child experienced by a phoniatric team. *Journal of Communication Disorders*, *3* (1), 1-27.

Reports of a case history of an autistic boy. Emphasis on the intra- and interpersonal prerequisites of language development is made, and it is suggested that the ideal condition for therapy include cooperation, testing, and supportive therapy for all members of the diagnostic team and family of the child. (From PA, 1971, *45*, Abstract No. 1064).

626. Sosne, J.B., et al. (1979). Teaching spontaneous-functional speech to autistic-type children. *Mental Retardation*, *17* (5), 241-245.

The paper presents a program for increasing spontaneous functional speech to autistic like children. The program, applicable to individual and group settings, emphasized the use of language skills beyond the classroom. Six steps are described: creating the need for speech, establishing the response, programing generalization, introducing advanced language concepts, establishing communicative interactions, and programing in the home. (From ECEA, 1980, *12* (2), Abstract No. 12376).

627. Stark, J., et al. (1968). Increasing verbal behavior in an autistic child. *Journal of Speech and Hearing Disorders*, *33* (1), 42-48.

Description of behavior modification techniques used to develop language in a five-year-old autistic child, classified under nonvocal imitation, vocal imitation, verbal labeling, and verbal discrimination. (From LLBA, 1969, *3* (1), p. 243).

628. Stark, J. (1972). Language training for the autistic child using operant conditioning procedures. *Journal of Communication Disorders*, *5* (2), 183-194.

A description of the nature of behaviors encountered in autistic children. Characteristics of their speech and language behavior are delineated and some principles related to modifying deviant language are discussed. The need to observe and record responses to teaching procedures is stressed. The role of consequent and antecedent events is discussed based upon the findings in several clinical experimental studies. Emphasis is on the relationship of developmental psycholinguistics and behavioral psychology as they apply to the complex problems of improving the linguistic performance of nonverbal autistic children. (From LLBA, 1973, *7* (1), Abstract No. 7301533).

629. Starkweather, C.W. (1977). Disorders of nonverbal communication. *Journal of Speech and hearing Disorders*, *42* (4), 535-546.

The idea that nonverbal communication can be disordered is explored, and several types of nonverbal communication disorders are described: avoidance of eye-contact by stutterers and autistic children; inappropriate amount of body movement; and idiosyncratic mannerisms. These disorders' characteristics and several possible explanations for their acquisition are offered. Finally, suggestions for therapeutic procedures are made. (From LLBA, *13*, Abstract No. 02638).

630. Steinfeld, B.I. (1979, June). *Teaching an autistic child*

receptive labels: A comparison of two types of extra-stimulus prompting procedures. Paper presented a the Annual Association for Behavior Analysis Convention, Dearborn, MI.

The effectiveness of two extra-stimulus prompting procedures was compared in teaching receptive labels to a 3 year old autistic boy. One prompting procedure was used exclusively by the treatment center the child attended and was similar to extra-stimulus prompts used in previous studies. The procedure involved alternating unprompted trials of a verbal command and physically prompted trials of a verbal command. The second procedure, a modified extra-stimulus prompt, involved the initial presentation of only physical prompts without a verbal command and then the verbal command was faded in while the prompt was faded out. The S acquired a receptive label with each procedure, but he made fewer errors with the modified extra-stimulus prompting procedure. When the verbal command used with each prompting procedure was randomly presented immediately after training and 3 weeks later, the child's accuracy of responding to the verbal command used with the modified extra-stimulus prompting procedure was greater than to the verbal command used with other extra-stimulus prompting procedure. (From ECEA, 1980, 12 (1), Abstract No. 120452).

631. Stevens-Long, J., Schwarz, J., & Bliss, D. (1976). The acquisition and generalization of compound sentence structure in an autistic child. Behavior Therapy, 7 (3), 397-404.

Reports on training procedures (imitative promptings, differential reinforcement, and time-out) utilized with a 6-yr-old autistic male. By the end of the treatment period, the subjects had acquired the ability to produce simple and compound sentences. (From PA, 1977, 57 (1), Abstract No. 1663).

632. Stevens-Long, J., & Rasmusen, M. (1974). The acquisition of simple and compound sentence structure in an autistic child. Journal of Applied Behavior Analysis, 7 (3),473-479.

Contingent reinforcement and imitative prompts were used to teach an autistic child (8-years-old) to use simple and compound sentences to describe a set of standard pictures. When imitative prompts and reinforcement were discontinued, correct use of simple sentences declined, but increased again when imitative prompts and reinforcement were re-instated. When imitative prompts and reinforcements were used to teach compound sentence structure, correct use of simple sentences declined and correct use of compound structure increased. At the end of training, the child also used novel compound sentences to describe a set of pictures on which he had received no direct training. (From ECEA, 1975, *7* (1), Abstract No. 070282).

633. Stoler, D.R. (1977). A description of the changes in verbal-non-verbal communicative behavior in a group of autistic children. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI, 48106.

Among findings of a study involving five autistic children were that regardless of the various overt influencing factors in the educational environment, Ss' verbal nonverbal communicative behavior increased while their verbal nonverbal noncommunicative behavior decreased; and that the activity of eating was the most significant factor that affected verbal nonverbal communication. (From ECEA, 1978, *10* (3), Abstract No. 103231).

634. Stull, S., et al. (1979). Sign language as a means of commnicating with autistic and mentally handicapped children. *Child Care Quarterly*, *8* (2), 143-147.

The use of simultaneous communication (pairing manual signs with verbal language) with autistic and mentally retarded children is discussed. Considered are reasons for its use, effects on speech development, training of parents and workers, and research on its effectiveness. (From ECEA, 1980, *11* (4), Abstract No. 115176).

635. Sulzbacher, S.I., & Costello, J.M. (1970). A behavioral strategy for language training of a child with autistic behaviors. *Journal of Speech and Hearing Disorders*, *35* (3), 256-276.

A case study is presented which demonstrates the use of operant conditioning in language training of a six year old child with grossly deviant autistic behavior. The major emphasis in diagnosis and treatment was on the continuous measurement of changes in objectively defined target behaviors. Long range treatment goals formulated were: deceleration of certain undesired vocal and nonvocal behaviors, acquisition of the language and social skills required for school success, and generalization of these skills away from the clinic. Treatment is described in chronological order beginning with 20-minute sessions, five times a week, in a state of mild food deprivation where acceptable behavior was reinforced with verbal praise and candy. Procedures used for teaching expressive language, extending treatment of school behaviors, and subsequent speech and language training are described. After three and one-half years, the child had reached grade 4 and his language was essentially normal. (From ECEA, 1971, 2 (4), Abstract No. 006399).

636. Tager-Flusberg, H. (1981). Sentence comprehension in autistic children. Applied Psycholinguistics, 2, 5-24.

Eighteen autistic subjects were compared with 30 normal 3-4 year-olds who were matched on intelligence. Comprehension in autistics was lower than in normals. In autism, a semantic-cognitive deficit underlies the comprehenison difficulties. (From CDA, 1982, 56 (3-4), Abstract No. 1382).

637. Tager-Flusberg, H. (1981). On the nature of linguistic functioning in early infantile autism Journal of Autism and Developmental Disorders, 11, 45-56.

A review of studies shows that phonological and syntactic development follow the same course as in normal children, though at a slowed rate, while semantic and pragmatic functioning may be specially deficient in autism. (From CDA, 1982, 56 (1-2), Abstract No. 635).

638. Tager-Flusberg, H.B. (1979). Early infantile autism: The relationship between a cognitive deficit and language dysfunction. Paper presented at the Biennial Meeting of the Society for Research in Child Development, San Francisco, CA.

Three studies were conducted with three groups of eighteen autistic children (3 to 11 years old) matched by age and IQ to developmental aphasic Ss to examine the nature of the cognitive defict underlying autism. Two experiments were concerned with language comprehension using real and anomalous sentences, while the third investigation was an observational study of the play of autistic children. In Experiment I, autistic Ss were found not to use a probable event strategy in sentence comprehension. In Experiment II, autistic Ss demonstrated ability to extract and apply a linguistic rule (word order) but failed to apply a non-linguistic rule (probable event). In Experiment III, the majority of the Ss spent most of their time engaging in simple undefined manual activity or repetitive manipulation with toys, with relatively few examples of relational or functional play. Data from all three studies were consistent with the hypothesis that autistic children have a specific cognitive defict in understanding relational aspects of the environment, particularly for the probabilities involved in such relationships among people and objects. (From ECEA, 1980, 12 (2), Abstract No. 121204).

639. Takagi, R. (1972). Language developmental disorder as the primary disturbances of childhood autism. Japanese Journal of Child Psychiatry, 13, 285-294.

Impairment of the dominant hemisphere, together with language dysfuntion, is a primary clinical manifestation of older autistic children who develop secondary regressive symptoms (stereotypic, ritualistic, or compulsive behaviors). Two years is the critical age when the child may develop "autism" or adjust to the real environment. (From CDA, 1974, 48 (3-4), Abstract No. 755).

640. Tew, L.E. (1978). A review of approaches and outcomes in the use of manual systems with non-verbal autistic children. Journal of Childhood Communication Disorders, 2 (2), 76-85.

The article reviews the literature on the use of manual communication systems with nonverbal autistic children. The advantages of using signs are discussed, including their ability to circumvent cross-modal processing difficulties that are considered to be a general factor contributing to language learning difficulties in such children. Case studies in which manual systems have been successfully employed with autistic children are cited. Some factors which may contribute to the success of this approach are considered. (From ECEA, 1979, 11 (2), Abstract No. 112768).

641. Thomke, H. (1977). Sprachaufbau bel einem autistischen Kind-Uberlegungen zum Spracherwerb und zer Sprachtherape (Language in an autistic child: Contribution to language acquisition and language therapy). Psychologie, 36 (1), 1-18. (GER)

Described is a case study of a mute, autistic 6-year-old M. The two-year therapeutic procedure based on conditioning within the behaviorist framework is detailed. Literature on child language acquisition is reviewed and the practical proceedings are contrasted with theoretical models. Limits of the procedure used are explored. (From LLBA, 1982, 16 (3), Abstract No. 8205205).

642. Tramontana, J., & Shivers, O. (1971). Behavior modification with an echolalic child: A case note. Psychological Reports, 29 (3, part 2), 1034.

A report of a modification in the Risley and Wolf technique (See LLBA I/4, p. 877) of replacing echolalia with appropriate language. The S was a six year old mentally retarded boy who displayed autistic behavior and language function similar to that of the Ss described in the earlier study. The modified procedure was deemed necessary when it became evident that S's verbal behavior was not modifiable by means of that technique. The advanced reading skill of the S was incorporated where his response to verbal stimuli had been so rapid it blocked the response prompt. A visual stimulus (words printed in block letters on cards) seemed to maintain the S's attention so that he no longer attended too long or mimicked the question. Dramatic improvement occurred with the use of the visual stimulus and continued after it was faded out. (From LLBA, 1972, 6 (1), Abstract No. 7203013).

643. Tramontana, J., & Stimbert, V. (1970). Some techniques of behavior modification with an autistic child. Psychological Reports, 27 (2), 498.

The subject was a 7-yr-old boy diagnosed as autistic. His speech was characterized by echolalie, pronoun reversals, and an inability to answer questions. He typically roamed around the therapy room, gesturing, and repeating snatches of conversation. Eye contacts and social behaviors were rare. In spite of being untestable on conventional psychometric devices, he was a precocious reader with a variety of materials; however, because of deviant speech there was no evidence that he comprehended written materials. Speech training focused on establishing verbal responses to questions and was carried out in a manner similar to previous studies. A question was asked and before he could inappropriately mimic the question, the answer was prompted. He was reinforced for correct imitations of the prompt. Prompts were gradually faded. Attempts were also made to modify S's tendency to reverse pronouns. Articles of his clothing were touched and he was asked, "Whose ... is this?" He was prompted to say "mine". Then the same items of the therapist's clothing were touched, the same question asked, and he was prompted to say "yours." In spite of extensive training in this area, correct pronoun use was never developed. On tasks requiring sustained attention or following of rules, S was unable to withhold responses until the appropriate time. Training in this area required one session. In order to increase generalization, therapy sessions were held in several different rooms and different people were involved in asking S questions. Having his current repertoire in written form for distribution to persons other than the therapist greatly facilitated generalization training. In addition, S's family was trained to extend these techniques into the home. Later in therapy, new responses were often an elaboration or extension of earlier, well-established responses. During 50 twice-weekly training sessions, marked changes in social behavior occurred. (From LLBA, 1971, 5 (1), Abstract No. E01176).

644. Uchida, I. (1979). Language faults and the severity of symptoms in autistic children. Japanese Journal of Child & Adolescent Psychiatry, 20 (5), 311-324.

Reports on a study designed to determine the relationship between language defecits, severity of symptoms, and age in 125 autistic children aged 3-9 years. (From PA, 1981, 66 (1), Abstract No. 1492).

645. Van Duyn, J. (1972). Magic machines for autistic children. Early Years, 2 (7), 56-58.

Described briefly is Stanford University's Higher Mental Functions Program for autistic children. A computer is used in the program as a catalyst in the treatment of the nonspeaking children. Emphasis is upon participation and repetition. The computer plays eight different short games in which the child is asked a question requiring a response. The treatment approach is based on the following assumptions: all children like to play lively noisy games, autistic children favor playing with machines, and computers have limitless patience and persistence, unlike people. (From ECEA, 1972, 4 (2), Abstract No. D41223).

646. Vernon, M., Coley, J., & DuBois, J. (1980). Using sign language to remediate severe reading problems. Journal of Learning Disabilities, 13 (4), 215-218.

Discussed is the value of the sign language used by deaf people in the teaching of reading and communication to children with learning disability, autism, mental retardation, aphasia, & other problems. The theory behind the method and the specifics of its implementation are described. (From LLBA, 1982, 16 (4), Abstract No. 8206959).

647. Voeltz, L.M. (1976). An analysis of the linguistic behaviors of severely developmentally handicapped children diagnosed as autistic. University Microfilms International, P.O. Box 1346, Ann Arbor, MI 48106.

Findings of the study involving eight autistic children support the existence of the capability for linguistic competence in autistic children, and specifically suggest that echolalia as a linguistic phenomenon may not indicate language deviance as much as it does the possibility and level of developing linguistic knowledge. (From ECEA, 1978, 10 (1), Abstract No. 100955)

648. Wakabayashi, S., Mizuno, M., & Nishimura, B. (1977). A study of imitation in autistic children. Japanese Journal of Child Psychiatry, 18 (5), 271-286.

Reports on the relationship between imitative behavior and echolalia in cases of poor or good prognoses of autism in children. (From PA, 1980, 64 (2), Abstract No. 12683).

649. Wallace, B.R. (1975). Negativism in verbal and nonverbal responses of autistic children. Journal of Abnormal Psychology, 84 (2), 138-143.

The purpose of the present investigation was to study the frequency and type of negative responses (as defined by Zaslow) in children diagnosed as autistic, behavior-disturbed, and normal to verbal and nonverbal requests for verbal and nonverbal responses. (From CIJE, 1975, Abstract No. EJ116930).

650. Wallick, M.M. (1980, April). *Hands-on with sign and sound: Introduction to a workshop on simultaneous communication*. Paper presented at the Annual International Convention of the Council for Exceptional Children, Philadelphia, PA.

The paper describes a program of teaching simultaneous communication (total communication) to behaviorally disordered preschool children, and presents the cases of two autistic and two autisticlike children. Simultaneous communication involves tactile, visual, oral, and auditory modalities and combines spoken language with Signed English. Before sign language can be used in a child's treatment, some social interaction, eye contact, and compliance training are needed. To achieve this end, intrusive therapy is used in which a therapist does whatever will make her presence felt by the child. Sign is then paired with verbal speech in greeting, song, rhyme, instruction, and announcement of activity change. Intervention with the four children suggests that sign not only stimulates skill in communication, but often energizes expressive speech as well. (From ECEA, 1980, *12* (4), Abstract No. 024357).

651. Ward, A.J., & Leith, V.M. (1973). The joint treatment of an "autistic" child by clinical psychology and speech therapy. *International Journal of Child Psychiatry*, *2* (4), 451-470.

Utilized structural therapy (emphasizing improvement of body image and human relationships) with a 3 1/2 year-old autistic girl. After sixteen months of treatment, it is reported that the child began to develop warm relationships with her immediate family, acquired simple communication skills, decreased hyperactivity, and began to form peer relationships. (From PA, 1975, *53* (2), Abstract No. 7878).

652. Ward, T.F., & Hoddinott, B.A. (1968). The development of speech in an autistic child. *Acta Paedopsychiat. Basel*, *35* (4-8), 199-215. Abstr. *In Engl., Ger., Fr., and Span.*

McCarthy has stressed the contributions of many workers, including Piaget, to our knowledge of the development of speech. Later work has shown the value of application of such work to specific clinical syndromes including the autistic. The program for autistic children being carried out at Thistletown Hospital allowed a study to be made of the development of speech in an autistic child. Time sampling records were classified using three methods: Two developed at Thistletown and the third that of Piaget. The significance of this child's use of verbalizations other than speech was clearly seen both prior to his development of communicative speech and at later stages. Comments on his own activities and other forms of egocentric speech were first noticed. A possible use by this boy of accepting female figures as the impetus for the spontaneous development of speech is noted. Finally the significance which he attached to objects within the physical environment is revealed by one classification. (From LLBA, 1969, 3 (1), p. 245).

653. Watters, R.G., Wheeler, L.J., & Watters, W.E. (1981). The relative efficiency of two orders for training autistic children in the expressive and receptive use of manual signs. Journal of Communication Disorders, 14 (4), 273-285.

Using simultaneous communication (speech plus gesture), each of four nonverbal autistic childrn (10 to 16 years old) were taught the receptive and expressive use of eight signed words. In a within Ss comparison, each child was taught four words expressively (signing) first and then receptively first and then expressively (signing). The results indicated that it took fewer trials to teach expressive and receptive use when teaching was done in the order expressive then receptive; the teaching of expressive use facilitated the learning of receptive use; the teaching of receptive use interfered with the learning of expressive use; and by the end of training, good receptive control by the spoken word alone had developed. (From ECEA, 1982, 14 (2), Abstract No. 141423).

654. Webster, C. (1973). Gestural training breaks communication barrier in child autism. Special Education in Canada, 48 (1), 6-26.

Two 6-year-old autistic boys learned to communicate by using explicit hand signals accompanied by verbal commands. The therapist gesturally expressed commands such as "sit down" by placing the index and middle finger of one outstretched hand on the same fingers of the other hand while keeping remaining fingers and thumbs folded. In addition to using the gestures to communicate, the boys followed spoken commands and enjoyed commanding the teachers. Teachers would benefit from 10 guidelines such as finding out if the child has efficient signs before imposing a set of signs on the child. (From ECEA, 1974, 6 (2), Abstract No. 061071).

655. Webster, C.D., et al. (1975, April). Assessing autistic children: Discrimination training and simultaneous communication procedures. Presented at the Bieenial Meeting of the Society for Research in Child Development, Denver, Colorado.

Procedures used during a 5-week assessment phase of simultaneous communication program for five severely dysfunctional nonverbal children (5-9 year old) are described, and techniques for assessing autistic children are discussed. Indications from measuring the gestural communication of 5 dysfunctional Ss following communication training are noted to include that there was considerable variability among Ss' level of communication; that spontaneous communication lagged behind both receptive and reproductive communication; and that gestural communications involving verbs of action and nouns were the easiest to teach. A study involving eight autistic, eight normal, and eight retarded children is cited as an attempt to assess the children's ability to distinguish basic elements of human speech. Other assessment techniques are mentioned which involve the use of fading procedures, visual and then auditory stimulation, and microanalysis of body movement. (From ECEA, 1976, 8 (2), Abstract No. 081475).

656. Webster, C.D., McPherson, H., Sloman, L., Evans, M., & Kuchar, E. (1973). Communicating with an autistic boy by gestures. Journal of Autism and Childhood Schizophrenia, 3 (4), 337-346.

After unsuccessful attempts to teach a six year old, mute, autistic retarded boy to follow simple verbal instructions, an effort was made to train the child to comply with gestural commands. The latter part of the program worked well, resulting in the boys's ability to follow instructions to stand up, sit down, turn around, turn an object over, go to another person, and give an object to someone else. Other activities also began to come under gestural control, and the child learned to instruct a person to stand up. The acquired behavior did not require much time or effort to establish (24 one-hour sessions, none of which was totally devoted to gestural training). The results and potentialities of the described training procedure are discussed in light of recent findings by other researchers. (From LLBA, 1974, 8 (2), Abstract No. 7404521).

657. Wing, L. (1979). Differentiation of retardation and autism from specific communication disorders. Child: Care Health, and Development, 5 (1), 57-68.

Characteristics differentiating between childhood autism, specific communication disorders, and mental retardation are described. Considered are patterns seen at different stages of childhood in each of the three groups with sections on the first year; years 1 to 5; comprehension of speech; gesture and mime; inner language and pretend play; repetitive, stereotyped activities; social interaction; responses to simple sensory stimuli; motor development; and school age children. Difficulty in diagnosis is seen to stem from overlapping behavior patterns among the groups. (From ECEA, 1980, 11 (4), Abstract No. 114456).

658. Wolchik, S.A. (1981). A comparison of the language environments of young autistic-like children and those of normal, language-age matched children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

Among results of a study comparing the language patterns of parents of ten autistic and 10 normal children were that parents of both groups provided similar language environments for their children and that the only significant difference was that parents of normal children spoke to each other more. (From ECEA, 1982, 14 (2), Abstract No. 141920).

659. Wolchick, S.A. (1982). Language environments of autistic and normal children matched for language age; A preliminary investigation. Journal of Autism and Developmental Disorders, 12, 43-55.

Language patterns were assessed during two 20-minute free-play sessions. The parents of the normal children engaged in a greater proportion of adult-directed language than did the parents of the autistic children. (From CDA, 1983, 57 (1-2), Abstract No. 781).

660. Wolf, E.G., & Guttenberg, B.A. (1967). Communication therapy for the autistic child. Journal of Speech and Hearing Disorders, 32 (4), 331-335.

Methods for developing language and communication in the autistic child based on the premise that infantile autism is a disorder pervading the entire range of ego functioning were used with autistic children (ages 2-1/2 to 5 years) in a day-care center. Most children had no words at the time of admission; few had echolalic speech. Because these children respond to intensive communication stimulation such as is given to a normal infant, the child-care workers who had primary care of the children were encouraged to initiate frequent vocalization and to reinforce the children's efforts. When the child was able to achieve some relationship with the child-care worker, formal attempts at communication therapy were begun. Individual therapy sessions, conducted in a special room with a task-oriented atmosphere, were scheduled at regular times. The production of sounds, the mechanics of imitation, and word acquisition were encouraged. Results indicated that most of the autistic children progressed through babbling and jargon to the beginning use of words. Suggestions were that these children need a constant, simplified, and concrete physical and linguistic world. (From ECEA, 1968/69, 1 (5), Abstract No. 001628).

661. Wolf, E.G., & Ruttenberg, B.A. (1968). Sound acceptance in the autistic child. Journal of Special Education, 2 (4), 353-359.

On the basis of observations that autistic children manifest unusual characteristics in relation to auditory stimuli. A sound reception scale was developed which describes a general developmental hierarchy of observable responses to sound. Used over a period of time with populations, it was found that autistic children in non-stimulating environments continue to relinquish auditory contact with their environments. (From LLBA, 1969, 3 (1), Abstract No. C02644).

662. Wolf, E.G., & Ruttenberg, B.A. (1967). Communication therapy for the autistic child. Journal of Speech and Hearing Disorders, 32 (4), 331-335.

A description of efforts to provide communication therapy for the autistic child. It was found that these children respond to intensive communication stimulation such as is given in smaller doses to a normal infant. They need greater motivation and help to become interested in and to learn to produce sounds and words than do deaf or aphasic children. They also need a constant, simplified, and concrete physical and linguistic world. (From LLBA, 1969, 3, p. 703).

663. Wood, N. (1960). Language development and language disorders: A compendium of Lectures. Society for Research in Child Development Monograph No. 77, New York, New York.

Nine lectures presented at a symposium entitled Language Development and Language Disordrs at The Cleveland Hearing and Speech Center in 1958 are included in the volume. The following lectures are included: Language Development by

Dorothy McCarthy; Language Disorders in Children, by Nancy E. Wood; Organic Brain Syndromes and Speech Disorders in Children, by Robert D. Mercer; A Neurologist Discusses the Evaluation of a Nonverbal Child, by Lovwell G. Lubic; Autistic and Symbiotic Syndromes in Children, by Earl A. Loomis, Jr.; Psychologic Assessment of the Nonverbal Child, by Melvin E. Allerhand; Language Problems of the Child with Cerebral Palsy, by Margaret C. Lefevre; Language Development of the Mentally Retarded Child, by T. Ernest Newland; and When and What is Aphasia, by Jon Eisenson. (From ECEA, 3 (2), Abstract No. 031315).

664. Akyurek, A. (1982). Stereotypic and automanipulative behavior of autistic children. Psychological Reports, 50, 63-67.

In an observational experiment, children were exposed to 6 trials that were graded in complexity. Automanipulates, but not stereotypes, decreased with increasing complexity. (From CDA, 1983, 57 (1-2), Abstract No. 703).

665. Clark, P. (1977). Compliance and resistance in autistic children. Journal of Autism and Childhood Schizophrenia, 7 (1), 3-48.

The researchers explored factors related to negativism in 27 elementary age autistic children, where negativism was defined as the consistent avoidance of a correct response in a multiple choice discrimination task. (From CIJE, 1978, Abstract No. EJ164294).

666. Ferster, C.B. (1961). Positive reinforcement and behavioral deficits of autistic children. Child Development, 32, 437-456.

An analysis of how the basic variables governing a child's behavior suggests specific conditions under which these variables may lead to the kind of performance deficits seen in the autistic child. The analysis emphasizes the child's performance as it is changed by, and affected in, social and nonsocial environments. The analysis of the autistic child's behavioral deficits comes from the general principles of behavior, derived from a variety of species, which describe the kinds of factors that alter the frequency of an arbitrary act. The general principles of behavior applied to the specific situations, presumably present during the child's developmental period, leads to hypotheses as to specific factors in the autistic child's home life which could produce the severe changes in the frequency as well as in the form of its behavior. (From CDA, 1961, 35 (5-6), Abstract No. 717).

667. Haslett, N.R., et al. (1977). The attachment of a child to an inanimate object: Translation into clinical utility. Child Psychiatry & Human Development, 8 (1), 54-60).

The authors examine the attachment relationship of a retarded child and relate this relationship to his emotional development. Methods are suggested for utilizing such observations for the assessment of cognition. The object is described as having only a qualitative difference compared to a transitional object. The evaluation of retarded children is discussed and presented as involving: (a) a need for approaches identical to those used in evaluating intellectually normal children, and (b) the interdisciplinary assessment with combinations of behavioral and dynamic techniques. The authors outline application for parent counselling, institutional policies, psychological assessment, therapeutic practice, and personality theory. (From PA, 1979, 61 (1), Abstract No. 1278).

668. Ishii, T., & Wakabayaski, S. (1967). A consideration regarding "the desire for the maintenance of sameness" in early infantile autism. Japanese Journal of Child Psychiatry, 8 (5), 427-432.

It is suggested that, although an obsessive desire for the maintenance of sameness is characteristic of autistic children, it would be better to describe it as the adherence to a particular pattern of behavior. A change in the "substance" of sameness is found with intellectual development. Four categories were defined to describe the various attitudes demonstrated by autistic children, and recognized as "sameness": 1)fine motor coordination; 2)devotion to favorite objects; 3)rigidly fixed manner of doing things; 4) devotion to their own animistic fantasies. (From PA, 1978, 42 (2), Abstract No. 14180).

669. Ritvo, E.R., Ornitz, E.M., & La Franchi, S. (1968). Frequency of repetitive behaviors in early infantile autism and its variants. Archives of General Psychiatry, 19, 341-347.

Similarities between the children diagnosed as autistic, symbiotic, and schizophrenic were reviewed with a rationale offered that these are variants of the same disease. "...these children are unable to maintain homeostatic regulation of sensory input and thus experience perceptual inconstancy." The neuropathologic process underlying perceptual inconstancy is hypothesized as also being responsible for the motility disturbances seen in such children. Using moving pictures this hypothesis was tested by demonstrating consistency to the average frequency of repetitive behaviors within a given child and among children. Results: specific behavior of oscillating in 1 child was begun and continued until termination at a constant frequency. With the exception of body rocking, all the results of behaviors in 6 children statistically appeared to come from the same frequency population. (From CDA, 1970, 44 (1-2), Abstract No. 364).

670. Saposnek, D.T. (1972). An experimental study of rage reduction treatment of autistic children. *Child Psychiatry and Human Development*, *3* (1), 50-62.

A new treatment method for autism was tested on two matched samples of 15 autistic children each. Single rage-reduction sessions were compared with comparable periods of therapist contact, resulting in significant positive changes in behaviors, such as approach to therapist or eye contact, for the rage-reduction group only. (From ECEA, 1973, *5* (1), Abstract No. 050540).

671. Shodell, M.J., & Reiter, H. (1968). Self-mutilative behavior in verbal and nonverbal schizophrenic chilren. *Archives of General Psychiatry*, *19*, 453-455.

Self-mutilation was described as any overt, painful, or destructive act committed by the child on his own body. Findings on 58 Ss indicate a significantly greater amount of self-mutilation in the autistic child who was unable to use verbal communication. Communication needs to be developed in order for overt behavior to be modified in the autistic youngster. (From CDA, 1970, *44* (1-2), Abstract No. 369).

672. Sorosky, A.D., Ornitz, E.M., Brown, M.B., & Ritvo, E.R. (1968). Systematic observations of autistic behavior. *Archives of General Psychiatry*, *18* (4), 439-449.

Observed 6 autistic children and 1 with Down's syndrome during sessions which lasted over 6 hours and occurred under conditions of social isolation in a sound attenuated room. Observations recorded specific autistic behaviors, particularly hand flapping. A multiple event recorder was used to record the frequency and duration of occurrence of these behaviors. The demonstrated persistence of autistic behaviors under conditions of prolonged observation with control of environmental variables, was the major finding. This is discussed in relation to several hypotheses on the nature of autistic behavior. (From PA, 1968, *42* (2), Abstract No. 12449).

673. Spitz, R.A. (1971). The adaptive viewpoint: Its role in autism and child psychiatry. *Journal of Autism and Childhood Schizophrenia*, *1* (3), 239-245.

Behavioral disorders in very young children are not psychiatric disorders, as the psyche is not fully formed yet, but disorders of adaption. The therapeutic approach should therefore be modified towards corrective solutions.

Many later disorders result form the failure of adaptation, especially at phases when the psyche reorganizes itself. (From LLBA, 1972, 6 (1), Abstract No. 7203019).

674. Srouffe, L.A., et al. (1973). The functional significance of autistic behaviors for the psychotic child. Journal of Abnormal Child Psychology, 1 (3), 225-240.

Physiological, cognitive, and emotional factors were examined throughout the treatment of a 6-year-old male psychotic child. Heart rate, latency and accuracy in task performance, behavioral indices of stress such as muscular tension, facial expression, and frequency of autistic mannerisms were measured concurrently. Both contemporaneous relationships and patterns of change suggested that autistic behaviors were organized and psychologically meaningful. Self-stimulaiton, conflict, and negativism (deliberate erroneous performance) occurred predictably, were intimately related, and were associated with specific patterns of heart-rate change. (From ECEA, 1974, 2 (2), Abstract No. 061152).

675. Volkmar, R.R., & Cohen, D.J. (1982). A hierarchical analysis of patterns of noncompliance in autistic and behavior-disturbed children. Journal of Autism and Developmental Disorders, 12, 35-42.

Experimental conditions consisted of a verbal response, a nonverbal request for a nonverbal response, and a verbal request for a nonverbal response. Scalogram analysis showed that the children's responses to the messages formed a cumulative, unidimensional hierarchy with verbal requests for verbal responses eliciting the least compliance and verbal requests for nonverbal responses the most. (From CDA, 1983, 57 (1-2), Abstract No. 779).

676. Blake, P., & Moss, T. (1967). The development of socialization skills in an electively mute child. Behav. Res. Ther., 5 (4), 349-356.

In a booth designed especially for work with both autistic and electively mute children, a 4-year-old girl named Dolly, who had no communicative speech or imitative skills, was given a preliminary session in which her verbal output was assessed. To elicit sounds from Dolly, an instrument called a "color organ" was used as a positive reinforcer. After this baseline assessment, in 40 half-hour sessions, Dolly was taught to make eye contact with E, and to obey instructions -- although it was first necessary to extinguish her disruptive behavior, particularly her operant crying. In addition, she learned non-verbal imitative behavior, such as hand clapping, and verbal imitative behavior, such as saying "hi!" Social (play) sessions were begun after session 21, and continued for the remaining time. These were helpful in generalizing Dolly's learned skills to an environment other than the booth; and to other tasks, such as singing "ee-eye-ee-eye-oh" in the refrain of the song, "old Mc Donald", and pointing to E's eyes, saying "ice". (From LLBA, 1968, 3 (2)).

677. Brenn, B.M. (1977). Simultaneous communication and social interaction in the treatment of autism. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

The major implication of the study is that simultaneous communication and social interaction be incorporated into treatments for the autistic child, as well as for other hearing, language impaired children. (From ECEA, 1979, 10 (4), Abstract No. 104342).

678. Churchill, D.W., & Bryson, C.Q. (1972). Looking and approach behavior of psychotic and normal children as a function of adult attention or preoccupation. Comprehensive Psychiatry, 13 (2), 171-177.

A study of 14 hospitalized 3-7 year-olds who had been diagnosed as autistic (5 boys, 3 girls) or early childhood schizophrenic (3 boys, 3 girls). A control group of 14 nonhospitalized Ss were chosen and matched for age, sex, and socioeconomic status. Observations were made of each S 3 times per day, 1 day per week, for 3 weeks. The hypothesis that adult attention drives away autistic or schizophrenic children was not supported. (From PA, 1973, 52, Abstract No. 9122).

679. Clark, P., & Rutter, M. (1981). Autistic children's responses to structure and to interpersonal demands. *Journal of Autism and Developmental Disorders*, *11*, 201-217.

Among findings of the study involving 10 autistic children (8 to 15 years old) were that four adult approach styles (varying in structure and interpersonal demands) were reliably discriminable and that children's responses were positively related to the interpersonal and task oriented demands that were made of them. (From CIJE, 1981, Abstract No. EJ 248677).

680. Freitag, G. (1970). An experimental study of the social responsiveness of children with autistic behaviors. *Journal of Experimental Child Psychology*, *9* (3), 436-453.

Relative strengths of positive (approach) and negative (avoidance) response tendencies and the extent to which social responsiveness could be influenced by preliminary interactions with another person, were examined in 45 institutionalized retarded boys with extreme autistic behavior, 45 nonautistic retarded boys from the same institution and 45 noninstitutionalized normal boys. Subjects played a two-part marble dropping game with an adult male E following preliminary postive, negative, or no initial contact. Results indicated reduced positive responsiveness and active avoidance of interpersonal contact among autistic Ss. Autistic Ss spent less total time in the game and were more physically distant from E, compared to normal Ss, and to a lesser extent retarded Ss. Autistic Ss showed the same magnitude of differential responsiveness to preliminary interactions as did retarded Ss. Findings suggest further examination of the sensitivity of autistic children to interpersonal events. (From LLBA, 1970, *4* (2), Abstract No. D03867).

681. Hung, D.W. (1975). The development and maintenance of cooperative play in autistic children: An experimental analysis. *Univeristy Microfilms International*, P.O. Box 1346, Ann Arbor MI 48106.

Reported data on the development, maintenance and generalization of cooperative play in two pairs of institutionalized nonverbal autistic children. (From ECEA, 1977, *9* (3), Abstract No. 092502).

682. Hutt, C., & Dunsted, C. (1966). The biological significance of gaze aversion with particular reference

to the syndrome of infantile autism. Behavioral Science, 11 (5), 346-356.

Notes that gaze behavior is one of the most important and most frequently used signalling devices of man. Gaze aversion, observed in autistic children, also appears to be a signalling function, similar to that of "appeasement postures" in certain animals, which serves to inhibit aggression on the part of others. To illustrate the findings, film records of the children's social behavior were presented. (From PA, 1966, 40 (2), Abstract No. 13361).

683. Lotter, V. (1974). Social adjustment and placement of autistic children in Middlesex: A follow-up study. Journal of Autism and Childhood Schizophrenia, 4 (1), 11-32.

A follow-up study of 32 autistic children identified in an epidemiological survey when they were 8 to 10 years of age and investigated 8 years later at 16 to 18 years of age is presented and discussed. Outcome is described in terms of general social adjustment, employment, and placement history. Study results are contrasted with results for a comparison group identified in the original survey and results reported for comparably defined children in other studies. Findings show that only one autistic child was employed, that outcome was in general worse for the autistic group in which 62% required extensive care and supervision, and that a direct relationship between employability and amount of schooling does not seem apparent. It is noted that expectations with respect to outcome can be indicated with some confidence for comparable groups. (From ECEA, 1974, 6 (3), Abstract No. 062075).

684. Maurer, A. (1969). Peek-a-boo: An entry into the world of the autistic child. Journal of Special Education, 3 (3), 309-312.

Loneliness, fear of a non-responding world, emotional withdrawal - can these be positively affected by so simple an interchange as peek-a-boo? Almost from the beginning, the human being find response from others an essential ingredient of his life. Physical well-being is insured by food and the comfort of human contact, but cognitive well-being does not begin to function fully until eye-to-eye recognition wakens the slumbering self. Jay, who lacked most of this, was overwhelmed at the prospect of losing what little he had. His vague and inconsistent mother, preoccupied with disasters of her own, was largely unaware of his existence. The traumas of his several hospitalizations seem to have been caused as much by separation anxiety as by painful procedures while there. Peek-a-boo, of course, was not the only source of newfound security that Jay experienced in play school. Certainly he established a bond of trust and affection with his teacher. But his specific deficit of inability to greet another human in normal fashion and his total terror of going to sleep began to yield only with the employment of this simple game, which appears to speak to the universal need for recognition and reassurance. (From LLBA, 1970, 4 (1), Abstract No. D01461).

685. Means, J.R., & Merrens, M.R. (1969). Interpersonal training for an autistic child. Perceptual and Motor Skills, 28 (3), 972-974.

The authors present a therapeutic program designed to capitalize on prepotent social behaviors in a 3 1/2 year-old autistic boy. Observations of treatment, by the foster mother, were used as a therapeutic training device. Observed behavioral changes, during treatment, were paralleled in the home. (From PA, 1969, 43 (2), Abstract No. 17700).

686. Meyer, C. (1975). Cooperative behavior between children with autistic traits and children without autistic traits. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Results of a study of interaction between three children with autistic traits and three children without autistic traits (6 to 11 years old) indicated that cooperative behavior can be enhanced by the use of contingent reinforcement. (From ECEA, 1977, 9 (3), Abstract No. 092508).

687. Morrison, D., et al. 91971). Effects of adult verbal requests on the behavior of autistic children. American Journal of Mental Deficiency, 75 (4), 510-518.

The failure of autistic children to respond appropriately to verbal request may be due to developmental receptive aphasia or due to the interpersonal conflicts of the autistic child. Using two boys as subjects, the study investigated the effects of adult verbal requests on the performance of autistic children in verbal discrimination tasks. Results demonstrated that the subjects' performances on a series of discrimination tasks shifted abruptly from random to better-than-chance discrimination when one of the objects to be discriminated was replaced by another object. The data are interpreted as indicating that failure to discriminate was not caused by inability to understand the request, but rather may have been due to the subjects' conflicts concerning compliance and resistance to adult request. (From ECEA, 1973, 4 (4), Abstract No. 042750).

688. Ragland, E.U., et al. (1978). Behavior of withdrawn autistic children. Effects of peer social initiations. Behavior Modification, 2 (4), 565-578.

A ten-year-old mildly behavior disordered child acted as a peer trainer to increase positive social interactions of three autistic children (8 to 9 years old). Increases in peer trainer initiations resulted in an immediate acceleration in the frequency of all Ss positive social behavior. For two Ss, negative social behaviors increased marginally during intervention sessions. Intervention applied to one S did not produce any "spillover" of treatment effect on the behavior of Ss not under intervention procedures at that time. (From ECEA, 1979, 11 (2), Abstract No. 112076).

689. Richer, J. (1976). The social-avoidance behavior of autistic children. Animal Behavior, 24, 898-906.

Direct observation and previous studies suggest autistic children actively avoid social encounters more than normal children and, concomitantly, act as if threatened by the mere proximity of nonthreatening approaches of others. A study is reported which supports this. The "cognitive-language handicap" theory of autism is criticized in the light of these results. (From CDA, 1977, 51 (3-4), Abstract No. 711).

690. Richer, J.M., & Coss, R.G. (1976). Gaze aversion in autistic and normal children. Acta Psychiatrica Scandinavica, 53 (3), 193-210.

The authors challenge the view that autistic children specifically avoid eye contact. 10 autistic children (5-11 years old) and 9 normal control children (age and sex matched) were studied while an adult looked at them with both eyes, 1 eye covered and both eyes covered. It was noted that normal children engaged in much more eye contact than the autistic children with fewer flight behaviors and stereotypies. Discusses other and often conflicting results of previous studies. Cautions teachers and nurses not to attempt even friendly eye contact with autistic children as this provokes more flight behavior. (From PA, 1976, 56 (2), Abstract No. 6174).

691. Richer, J., & Richards, B. (1975). Reacting to autistic children: The danger of trying too hard. British

Journal of Psychiatry, 127, 526-529.

Video tape recordings were made of the reactions of eight autistic children (5 to 11 years old) to four styles of adult behavior. Adults reacted to children in one of four ways: smiling, gaze averting, gaze averting plus other "timid" behaviors, and doing nothing except continuing to look back. For the last condition when the adult did not react, it was found that autistic children showed less avoidance behavior after eye contact and spent more time within one meter of the adult. (From ECEA, 1978. 9 (4), Abstract No. 093380).

692. Seehof, E.L. (1978). Effects of periodic persistent adult social contact on the behavior of autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Results of the study involving four autistic Ss implied that increased individual contact with adults can be tolerated by autistic children and is largely beneficial to both social behavior and ability to attend to a learning task. (From ECEA, 1980, 12 (1), Abstract No. 120955).

693. Strain, P.S., et al. (1979). Effects of peer-mediated social initiations and prompting/reinforcement procedures on the social behavior of autistic children. Journal of Autism and Developmental Disorders, 9 (1), 41-54.

Peer-mediated social initiations and prompting/reinforcement procedures were evaluated in training and generalization sessions as interventions for increasing the positive social behavior of four autistic children (ages 9 to 10 years). Both interventions produced dramatic and comparable increases in positive social behavior in training sessions; however, posttreatment responding was not observed for either intervention during generalization assessment. (From ECEA, 1979, 11 (3), Abstract No. 114008).

694. Strain, P.S., & Cooke, T.P. (1976). An observational investigation of two elementary age autistic children during free-play. Psychology in the Schools, 13 (1), 82-91.

The behavior repertoire of two elementary-age autistic children and their classroom peers was monitored during free play. During a 6-week period, two observational systems were used: one to record specific social behaviors, and the other to gather information regarding total behavior. Data obtained revealed that the majority of the Ss behavior involved manipulating toys and objects; that the Ss' encounters with peers were typically negative; and that Ss responded more frequently to vocal-verbal than to motor-gestural responses by peers. (From ECEA, 1976, *8* (2), Abstract No. 081079).

695. Sussman, S., & Sklar, J.L. (1969). The social awareness of autistic children. *American Journal of Orthopsychiatry*. *39*, 798-806.

Interaction was observed in a day setting for autistic children. It was posited that if autistic children were unresponsive to social cues their behavior would not be socially patterned. Analysis of interactions showed both workers and children to be highly responsive to each other and to context. (From CDA, 1971, *45* (5-6), Abstract No. 918).

696. Thatcher, M. (1976). An application of Piaget theory to autistic children. *University Microfilms International*, P.O. Box 1346, Ann Arbor Mi 48106.

To analyze the cognitive process and social development of autistic children by observing their performance on a series of Piagetian tasks at the sensorimotor level, 10 such children betwen the ages of 50 and 173 months were given four subtests of the Uzgiris and Hunt Ordinal Scales of Psychological Development. Results suggest that autistic children past age 4 have the concept of object permanence and are able to perform immediate acts of imitation, but have a deficit in symbolic association; and that their social development is normal for the first eight months of age, when there is a rapid decline in further acquiring of social behaviors and a retention of younger developmental behaviors. (From ECEA, 1978, *10* (3), Abstract No. 103137).

697. Tiegerman, E., & Primaver, L. (1981). Object manipulation: An interactional strategy for autistic children. *Journal of Autism and Developmental Disorders*, *1* (4), 427-428.

The research compared the effect of three play procedures upon the frequency and duration of object manipulation by six autistic children (4 to 6 years old). The three interaction play procedures varied in the degree of similarity between the adult's and the child's performances. In Procedure 1, the experimenter imitated the S's movements with her duplicate object. In Procedure 2, the experimenter performed a different movement with her duplicate object. In Procedure 3, the experimenter performed a different action on a different object. The interaction procedure, in which the experimenter imitated both the material and the method of play chosen by the autistic child, resulted in greater frequency and duration of object manipulation. (From ECEA,1982, 14 (2), Abstract No. 141297).

698. Wildman, R.W., & Simon, S.J. (1978). An indirect method for increasing the rate of social interaction in autistic child. Journal of Clinical Psychology, 34 (1), 144-149.

The treatment of a 9 year-old autistic boy is described. He manifested a low rate of social interaction with his parents and older sister. Attempts to persuade the parents to devote more interaction time the parents were instructed to give the child training in handwriting. The Ss ability to reproduce the alphabet showed a dramatic improvement and, more importantly, the rate of interaction between the child and his family increased tremendously. The percent of 10-sec intervals in which S spoke of his family, or vice-versa, increased from 19% to 89% during the intervention. Post intervention rates continued to increase. (From PA, 1979, 61 (1), Abstract No. 6594).

699. Wing, L., & Gould, J. (1979). Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification. Journal of Autism and Developmental Disorders, 9 (1), 11-29.

The prevalence of severe impairments of social interaction, language abnormalities, and repetitive stereotyped behaviors was investigated in a group of 132 children under 15 years old, consisting of a socially impaired group (more than half of whom were severely retarded) and a comparison group of sociable severely mentally retarded. Mutism or echolalia and repetitive stereotyped behaviors were found in almost all the socially impaired Ss, but to a less marked extent in a minority of the sociable severely retarded. Certain organic conditions were found more often in the socially impaired group. A subgroup with a history of Kanner's early childhood autism could be identified reliably but shared many abnormalities with other socially impaired Ss. (From ECEA, 1979, 11 (3), Abstract No. 114005).

700. Black, M., et al. (1975). Systematic observation of play behavior in autistic children. Journal of Autism and Childhood Schizophrenia, 5 (4), 363-371.

The play behavior, defined as interaction with peers and objects, of five autistic children (4 to 6 years old) was systematically observed in four environments - a stark environment, a theraplay unit, a playroom, and an outside play deck. The preliminary results suggested that with some children environment has little or no effect on their play behavior; with multiple objects, autistic children frequently related to the objects rather than to their peers; object play was most frequently at the manipulative stage and often included repetitive and negative behavior; within a confined space with no objects present, autistic children frequently engaged in solitary repetitive behavior; and within a confined space designed to facilitate a movement flow (theraplay), autistic children modeled and imitated and were involved in gross motor play together. (From ECEA, 1976, 8 (1), Abstract No. 080709).

701. Boer, A.P. (1968). Application of a simple recording system to the analysis of free-play behavior in autistic children. Journal of Applied Behavior Analysis, 1 (4), 335-340.

Developed an observational system to facilitate the recording of the total behavioral repertoire of four 4-5 yr-old autistic Ss. This system involves time sampling recording of behavior with the help of a common stenograph-machine. Categories of all behaviors were defined and a designated key on the stenograph corresponded with each categroy. O depressed 1 key at each 1-sec. interval and audible beats from a metronome paced O. A minimum of training is required to obtain reliable measures and O is not mechanically limited. A 5-week observation period presented data that indicated the stability of a taxonomic instrument of behavior based upon direct, time sampling observations and the stability of spontaneous autistic behavior. (From PA, 1969, 43 (2), Abstract No. 14562).

702. DeMyer, M.K., Mann, N.M., Tilton, J.R., & Lowe, L.H. (1967). Toy-play behavior and use of body by autistic and normal children as reported by mothers. Psychological Reports, 21 (3), 973-981.

A comparison of toy-play behavior and use of body of 30 autistic and 30 normal children between the ages of 2-7 was made by use of a maternal questionnaire. Exact probability tests on each of the 47 items of the

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questionnaire indicated significant differences between groups, the normal Ss demonstrating more age-appropriate play behavior and the autistic more ritualistic behavior. (From CDA, 1968, 42 (3-4), Abstract No. 414).

703. Ferrara, C., & Hill, S.D. (1980). The responsiveness of autistic children to the predictability of social and nonsocial toys. Journal of Autism and Developmental Disorders, 10, 51-57.

Social and nonsocial toys were presented to autistic and control children in situations that either allowed them to or prevented them from predicting their appearance. Autistic children's behavior was seriously disrupted if they could not predict the sequence of environmental stimuli, but their responsiveness to environmental stimuli increased when events were predictable. (From CDA, 1982, 56 (1-2), Abstract No. 572).

704. Higashi, H., Yuki, S., Tachiban, R., Takimiya, Y., & Honda, K. (1972). Shudan yugi ryoho ni okeru kudobunseki: (Japn). Behavioral analysis of group play therapy: Diagrammatic and quantitative representation for therapeutic relationships. Seishin Shinkeigaku Zasshi/Psychiatria et Neurologia Japonica, 74 (4), 326-338.

A report of a study to obtain objective measures of diagnosis and therapeutic influences of group play therapy on four children who were restless, had speech retardation, and had difficulty in interaction with other people. One S suffered from early infantile autism. Verbal and behavioral interaction between the therapist and children was recorded by a video-tape recorder throughout the sessions. Occurrence and duration of the interaction was also recorded. Time-course of the treatment was represented diagrammatically and was translated into a "vector." It was expected that the sequential change of the vector calculated would give an accurate description of the process of group play therapy. In addition, entropy was calculated to obtain another indicator of the therapist-patient relationship. Distinguishable differences were indicated in the four children. For three of them, the amount of therapist-patient relationship was lower during early stages of treatment than during later stages. In the early infantile autistic case, however, the amount of therapist-patient relationship was significantly lower than for the other three children at any stage of the treatment, and remained unchanged even at the last stage. In a follow-up study two years later, it was found that the child with early infantile autism was still isolated. On the other hand, the other three children had become more adaptive in groups; two in school and one in nursery school. These results indicate that the diagrams and vector quantitatively representing the therapist-patient relationship correspond approximately to clinical observations after two years. Finally, the possibility is discussed that this method of behavioral analysis may give a clue to estimate the influence of therapy, and aid in the diagnosis of behaviorally disordered children through group play therapy. (From LLBA, 1973, 7 (2), Abstract No. 05869).

705. Higashiyama, H. (1975). Group play communication therapy with autistic children. (Japn). Japanese Journal of Child Psychiatry, 16 (4), 224-236.

The author presents a play therapy program for autistic children. This program promotes development by opening and expanding communication activities. Autism is described as a variety of similar developmental abnormalities that range from almost completely psychogenic to almost completely organic problems. The group play communication therapy consists of 3-phases and applies almost exclusively to overcoming psychogenic problems. Like the dreams of adults, the play activities of children are open to symbolic interpretation and have the added advantage of allowing immediate intervention. Some cases displayed considerable improvement from the development of internal communication. The author discusses three cases. (From PA, 1980, 63 (1), Abstract No. 3719).

706. Kawamura, T., & Ishii, T. (1975). The play therapy program at Aichi Colony Hospital for autistic children. (Japn). Japanese Journal of Child Psychiatry, 16 (5), 307-315.

The authors examine a play therapy program carried out for six years at Colony Central Hospital in Aichi Perfecture. Random assignment of the children to different groups for two hours of unstructured play therapy was structured along the lines of activity in a normal Japanese kindergarten for oe year. The needs and individual interests of each child were stressed and used as a base to expand contact with the external world. Close physical contact between therapist and child was considered important. Discusses two case histories of 5 yr-old autistic boys. (From PA, 1980, 63 (1), Abstract No. 3914).

707. Koegel, R.L. (1974). Increasing spontaneous play by suppressing self-stimulation in autistic children. Journal of Applied Behavior Analysis, 7 (4), 521-528.

Appropriate play with toys was studied in two autistic children (8 and 6-years-old) with high occurrences of self-stimulatory behavior. Each child participated in the experimental sessions in an A-B-A design, where 'A' refers to baseline sessions and 'B' refers to self-stimulation suppression sessions. It was found that: during the baseline sessions, the children exhibited low levels of play and high levels of self-stimulatory behavior; the per cent of unreinforced, spontaneous, appropriate play increased when self-stimulatory behavior was suppressed; and when the suppression of self-stimulation was discontinued, the per cent of self-stimulation and that of appropriate play approached their presuppression levels. The results identified a set of conditions under which spontaneous appropriate behavior, uncommon in autistic children, occurs at an increased level. (From ECEA, 1975, 7 (2), Abstract No. 070822).

708. Pratorotti, A.R. (1970). Group play therapy with autistic children. Revista de Psicolgia Normal e Patologica, 16 (3-4), 305-312.

Reviews an attempt to treat six 8-13 year-old hospitalized boys diagnosed as schizophrenics or autistic. None communicated verbally and all had been hospitalized before. Three months of group play therapy resulted in some degree of response in all Ss, with attempts at behavior. However, the transfer of 1 therapist resulted in a two-week pause in the sessions and all apparent progress was lost. (From PA, 1975, 53 (1), Abstract No. 1756).

709. Richer, J.M., & Nicoll, S. (1971). The physical environment of the mentally handicapped;IV, a playroom for autistic children, and its companion therapy project. British Journal of Mental Subnormality, 17 (2), 132-143.

Described and pictured is a playroom designed for autistic children. Autistic children are said to be characterized by an apprehension upon approaching other people and by a capability of being easily frustrated. Changing physical environment was cited as an impetus for changing behavior and in turn, was cited as the premise for the playroom. The playroom is designed to reduce frustration and arousal and to reduce flight behaviors and facilitate approaches and reward social interactions. The playroom contains a retreat box, soft seats and pad, activity house, walkway, stimulus wall, mirrors, light box, blackboard, fixed tables and continuous benches, and drinking fountain. The playroom is intended to be the home for the children, in which no formal training will occur. Comparison of autistic children's behavior in the old and new playroom reveal that behavior patterns are improved in the new playroom. (From ECEA, 1972, 4 (3), Abstract No. 041618).

710. Riguet, C.B., et al. (1981). Symbolic play in autistic, down's, and normal children of equivalent mental age. Journal of Autism and Developmental Disorders, 11 (4), 439-448.

The study assessed free play and response to modeled symbolic play with animate toys and realistic and substitute accessories in 10 autistic children, 10 Down's syndrome, and 10 normal preschooler controls. Groups were matched on Peabody Picture Vocabulary Test mental age (PPVT MA) range and Mdn (2.5 years). Autistic children played less than controls, imitated less well, and, on structured baseline trials, showed lower level play. Symbolic fluency differentiated all groups in structured play. Symbolic fluency for free and structured play was positively correlated with PPVT MA in autistic children; level of play was most highly correlated with PPVT MA in normal children. Findings suggested impaired imitative capacity and symbolic functioning in autism. (From ECEA, 1982, 14 (2), Abstract No. 141298).

711. Rogers, A.L., & Fine H.J. (1977). Personal distance in play therapy with an autistic and a symbiotic psychotic child. Psychotherapy: Theory, Research & Practice, 14 (1), 41-48.

The personal distance behaviors of two severely disturbed children were compared. A 9 year-old autistic Mexican American boy and 7 year-old symbiotic psychotic Caucasian boy were observed using the naturalistic method of observation. Findings indicate the possible therapeutic uses of personal distance phenomena with disturbed children. (From PA, 1979, 61 (1), Abstract No. 6482).

712. Rumanoff, L.N. (1978). Developing group games for children with severe learning and behavior disorders. Teaching Exceptional Children, 10 (2), 51-53.

A teacher of autistic and brain damaged children discusses factors involved in designing a group game, and describes five games for children with limited receptive and expressive language. (From ECEA, 1979, 10 (4), Abstract No. 103478).

713. Ruttle, K. (1980, April). Play training for the autistic child without previous play behavior. Paper presented at the Annual International Convention of the Council for Exceptional Children, Philadelphia, PA.

The case study reports the findings of systematic play training with a 7 year old autistic male who had never exhibited play behavior. The research procedure involved three phases: imitation training, training manipulative play, and motivation training. Training during the three phases was conducted three times per week for 7-1/2 months in a quiet area of the self contained public school classroom. Results supported the contention that play behavior can be trained. On immediate posttest the child could perform 100% of the imitations - 77% on verbal command and 23% with a model. Training manipulative play with six toys was achieved. The child decreased the frequency of socially unacceptable behaviors and increased the frequency of socially acceptable play behaviors.(From ECEA, 1980, 12 (4), Abstract No. 124339).

714. Tilton, J.R., & Ottinger, D.R. (1964). Comparison of the toy play behavior of autistic, retarded, and normal children. Psychological Reports, 15, 967-975.

Autistic, mentally retarded, and normal children were observed individually during 20-minute play periods in which they were allowed complete freedom in the selection and use of toys. The observation period was divided into 60 segments and observers recorded which of a number of defined categories of toy uses occurred during each segment. This technique also provided a measure of the number of distinctly different acts comprising S's toy play repertoire. Both normal and retarded Ss exceeded the autistic Ss, and the normals surpassed the retardates in the proportion of over-all play devoted to combinational uses of toys. The play of the autistic group included higher proportions of both oral and repetitive use of toys than that of the other groups. The toy play repertoires of the autistic Ss contained fewer distinctly different acts than the repertoires of either the normals or retardates. (From CDA,1965, 39 (1-2), Abstract No. 100).

715. Ueda, R. (1969). Developmental study of play behavior through play interviews: II. Japanese Journal of Child Psychiatry, 10 (4), 210-220.

The play behavior of 30 mentally retarded and 16 autistic 3-7 year-old children was compared to the behavior of 63 normal Ss from Part I of a study by R. Ueda (see PA 44:9).It is suggested that this observational method is useful in differential diagnosis of younger nonverbal children. (From PA, 1970, 44 (2), Abstract No. 14687).

716. Ungerer, J., & Sigman, M. (1981). Symbolic play and language comprehension in autistic children. Journal of the American Academy of Child Psychiatry, 20, 318-337.

Structured and free-play assessments and a test of receptive language were administered to 2-year-old autistic children. Compared with normals, autistic children spend equal time in immature and mature forms of play and direct less play activity toward dolls. Autistic children with high language comprehension demonstrate more functional and symbolic play and longer sequences of meaningfully integrated play acts than autistic children with low language comprehension. (From CDA, 1982, 56 (1-2), Abstract No. 637).

717. Weiner, B.J., Ottinger, D.R., & Tilton, J.R. (1969). Comparison of toy-play behavior of autistic, retarded, and normal children: A reanalysis. Psychological Reports, 25 (1), 223-227.

The authors used a multiple discriminant function analysis to reanalyze the data of J.R. Tilton and D.R. Ottinger. This allowed consideration of all 10 categories of toy play and their intercorrelations. They found significant differences ($p < .001$) among the three groups and between the possible pairs of groups (normal-autistic, normal-retarded, autistic-retarded). The authors conclude that this observational technique combined with the multiple discriminant function analysis would be an effective diagnostic and evaluative measurement instrument. (From PA, 1970, 44 (1), Abstract No. 3811).

718. Wing, L., Gould, J., Yeates, S., & Brierley, L. (1977). Symbolic play in severely mentally retarded and autistic children. Journal of Child Psychiatry & Allied Disciplines, 18 (2), 167-178.

The Camberwell (England) Register was used to identify 108 children, between the ages of 5-14 years, who were being treated for severe mental retardation or had shown signs of early childhood autism. Discusses a small group of children with "repetitive" speech and stereotyped play and the relationship with childhood autism. Also discusses possible educational implications of the findings. (From PA, 1978, 59 (1), Abstract No. 5786).

719. Arnheim, R. (1980). The puzzle of Nadia's drawings. Arts in Psychotherapy, 7 (2), 79-85.

The drawings of a 3 1/2 year-old female autistic child are discussed. They are considered miraculous for two reasons: (1) art work displays abilities that are inconsistent with her severe cognitive limitations and social responses and her lack of motor dexterity during daily life; and (2) the artistic maturity found in her drawings is characteristic of only skilled adults. (From PA, 1982, 67 (3), Abstract No. 5871).

720. Cobrinik, L. (1974). Unusual reading ability in severely disturbed children: Clinical observation and retrospective inquiry. Journal of Autism and Childhood Schizophrenia, 4 (2), 163-175.

Six severely disturbed (autistic) boys who demonstrated unexpected rote reading abilities despite profound developmental arrest were studied in terms of current functioning on the Wechsler Intelligence Scale for Children and the Illinois Test of Psycholinguistic Abilities, and through retrospective interviews with parents for the origins and development of reading and reading related abilities. The results indicate a specific, shared pattern consisting of severe language deficit, tendencies toward perseverative action, and, as the necessary condition, the early manifestation of acute visual imagery and recall. The latter occurred despite generalized instability involving poorly controlled attention and deviant visual regard. The results supported, with some modification, the deficit hypothesis of Scheerer, Rothman, and Goldstein (See "A case of 'idiot savant': An experimental study" in Psychological Monographs, 1945, 58, 4, 1-63) in accounting for the existence of unusual abilities in developmentally arrested individuals. (From LLBA, 1975, 9 (1), Abstract No. 7502395).

721. Judge, C., & Hilgendorf, M. (1979). Art and the mentally retarded. Australian Journal of Mental Retardation, 5 (7), 282-288.

The article discusses - critically and from an aesthetic standpoint - artwork done by mentally retarded and autistic people, and presents analyses of 11 individual works, along with plates of the works themselves and brief case histories of the artists. Questions examined include whether the art of the retarded is modern art, whether it reflects innocence and simplicity, whether it is the same as naive art, and whether it is merely a diagnostic aid. (From ECEA, 1980, 12 (3), Abstract No. 122638).

722. Moore, P. (1977). Art for the autistic: One giant step toward reality. Early Years, 7 (5), 44-47.

Described is an art therapy program for young autistic children in which such materials as a box of styrofoam pieces and discarded wallpaper books, as well as the more traditional materials, are used to stimulate the children to express themselves. (From ECEA, 1977, 9 (2), Abstract No. 091180).

723. Morishma, A., & Brown, L.F. (1977). A case report on the artistic talent of an autistic idiot savant. Mental Retardation, 15 (2), 33-36.

The case study of a Japanese autistic idiot savant is reported, and a successful educational approach which emphasized use of the student's artistic talent is described. (From ECEA, 1978, 9 (4), Abstract No. 092901).

724. Pariser, D. (1981). Nadia's drawings: Theorizing about an autistic child's phenomenal ability. Studies in Art Education, 22 (2), 20-31.

Examines the case of Nadia, an autistic child with unusual graphic ability. Considers the development of her skill in relation to hypotheses about drawing, intelligence, and conceptual thought. Illustrations are included. Commentaries on this article by Charles Cleland and Martin Rayala appear on pages 68-72 of this issue. (From CIJE, 1981, Abstract No. EJ 239781).

725. Rigg, J. (1979). Nadia. Australian Journal of Mental Retardation, 5 (7), 277-282.

The article presents the transcript of an Australian radio program in which the interviewer and a psychologist discuss the implications of the extraordinary drawing ability faded as she was taught rudimentary speech skills. (From ECEA, 1980, 12 (3), Abstract No. 122637).

726. Albert, R.S., & Davis, A.J. (1970). A reliability study of interparental agreement on the Rimland Diagnostic Checklist. _Journal of Clinical Psychology_, _27_ (4), 499-502.

Investigated interparental agreement on Rimland's Diagnostic Check List, Form E-1, for a relatively pathology-free, homogeneous sample of preschoolers and to provide useful information. Thirty-one parents of normal children were administered the Form E-1. The degree of agreement between mothers and fathers was significantly high, and parents agreed in the judgement that their children had more autistic than schizophrenic tendencies. Some explanations for the high autism scores are presented. The parents' Autism to Schizophrenic (A/S ratio) scores were 2 to 1, as compared to the instrument's ratio of 3 to 2. "The major question that the results raise is the clinical meaning of the obtained A/S ratio in the discrimination of autistic, normal, and schizophrenic children." (From ECEA, 1972, _47_ (2), Abstract No. 9189).

727. Alpern, G. (1967). Measurement of untestable autistic children. _Journal of Abnormal Psychology_, _72_ (6), 478-486.

To aid in the psychometric evaluation of young autistic children, a 20-minute test (IIP, for infant items passed) was adapted from the Cattell Infant Scale. The IIP was administered to 14 autistic children, with an average age of 5 years, and then readministered after 3 days; scores were correlated with independent clinical judgments and with social ages on the Vineland Scale. A test-retest correlation of .93 and item analyses demonstrated high reliability. Four of five correlations between test scores and the validating criteria were significant. Conclusions were that autistic children are not psychometrically untestable and that they may differ from other severely cognitively handicapped children primarily by virtue of having fewer motor disabilities. (From ECEA, 1970, _7_ (1), Abstract No. 002037).

728. Bodenstein-Jenke, R. (1980). A comparative study of psychomotor test performances by autistic, mentally and educationally handicapped schoolchildren with the help of the LOS method from the Test Battery for the Mentally Handicapped. (GERM) _Praxis der Kinderpsychologie und Kinderpsychiatrie_, _29_ (1), 24-31.

A statistically assured difference was established in the motor performances of autistic, mentally handicapped (MH), and educationally handicapped (EH) children. The best results were achieved by the EH children, their overall retardation was slight and there were partial failures. The second best results were achieved by the autistic children who had complete and partial retardation. The lowest results in overall performance was found in the MH children who had complete motor weaknesses and partial retardation. Autistic children had the same order of completion of the motor components as the EH, but at a lower level. The conclusion is that autistic children should not be classified. (From PA, 1980, *65* (1), Abstract No. 3340).

729. Bormann-Kischkel, C., & Dirlich-Wilhelm H. (1981). Possibilities for diagnosing specific cognitive deficits in children with severe language disorders. (Ger). *Zeitschrift fur Kinder-und Jugendpsychiatrie*, *9* (1), 5-15.

Presents a study conducted with 9 males and 11 female autistic children aged 7.8-13.11 years which shows the Hamburg-Wechsler Intelligence Scale for Children (HAWIK: German version of WISC). Full Scale IQ is not adequate at identifying specific cognitive strengths and weaknesses of such children. Previous experimental findings on the cognitive strategies of autistic children are discussed in light of this finding. To get more qualitative information on the cognitive and perceptual strategies of children with severe language disorders, the authors suggest that the traditional testing procedure be expanded to included diagnostic experimentation. (From PA, 1982, *67* (4), Abstract No. 7853).

730. Capute, A.J., et al. (1975). Infantile autism I: A prospective study of the diagnosis. *Developmental Medicine and Child Neurology*, *17* (1), 58-62.

Screened for infantile autism were 200 developmentally disabled individuals (infants to young adults). Diagnoses derived from parental question responses and from behavioral and biochemical evaluation results were tabulated and compared to H. Clancy's proposed 14-point scale for identifying autism. While 48 Ss qualified as autistic on the scale, only one child met L. Kanner's classical criteria for autism. Data indicated that the Clancy scale was more useful as a screening than a diagnostic device. (From ECEA, 1975, *7* (3), Abstract No. 072183).

731. Catey, N.D. (1977). A comparison of autistic-like children and pre-reading normal speaking children on acquisition of three reading readiness skills.

University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

The Murphy-Durrell Letter Names Test, the Goldman-Fristoe Test of Articulation (Sounds in Words subtest), and the Wepman Test of Auditory Discrimination were administered to 28 autistic-like prereading children (ages 6 to 14 years) and a matched group of normal speaking children. Findings showed that the autistic-like children differed significantly from normal speaking prereading children in their ability on the three tests. (From ECEA, 1979, 11 (3), Abstract No. 113194).

732. Deckner, C.W., Soraci, S.A., Deckner, P.O., & Blanton, R.L. (1981). Consistency of commonly used procedures for assessment of abnormal children. Journal of Clinical Psychology, 37 (4), 856-862.

The Stanford-Binet Intelligence Scale and/or the Cattell Infant Intelligence Scale was administered to 22 children (mean age 9.42 years) in a school for the severely behaviorally disordered. The Vineland Social Maturity Scale and a scale of language development were also used for assessments. The Ss parents completed the Rimland E2 scale, designed to assess the presence and degree of autism. Findings from Pearson product-moment correlations are discussed in relation to the construct validity of the tests and practical problems of implementation. Examines the distinctiveness of specific classification dimensions and the heterogeneity of the syndrome of autism. (From PA, 1982, 67 (3), Abstract No. 5854).

733. DeMyer, M.K. et al. (1974). The measured intelligence of autistic children. Journal of Autism and Childhood Schizophrenia, 4 (1), 42-60.

734. DeMyer, M.K. (1975). The nature of the neuropsychological disability in autistic children. Journal of Autism and Childhood Schizophrenia, 5 (2), 109-128.

Compared were the performances of 66 high, middle, or low (mean IQ's 58, 47, and 28) autistic children with the performances of 29 nonpsychotic, mentally retarded children of equal mean chronological age (6 years) on selected verbal and performance IQ subtests. Ss were given four types of verbal tests - verbal memory, number concepts, receptive language, and comprehension and expressive speech - and performance tests involving upper extremities, lower extremities, and integration. Results indicated that high autistic children were similar to subnormal children on verbal subtests (although there was a trend for the high autistic to have slightly lower scores), and that subnormal children were superior to autistic children in some performance areas such as ball play. Findings suggested that autistic children with severe visual/motor disabilities as indicated by low ball play scores may be propelled into emotional withdrawal, even though they are only moderately retarded on verbal subtests. (From ECEA, 1976, 7 (4), Abstract No. 073563).

735. DeMyer, M.K. et al. (1972). A comparison of adaptive, verbal, and motor profiles of psychotic and non-psychotic subnormal children. Journal of Autism and Childhood Schizophrenia, 2 (4), 359-377.

A test battery designed to evaluate intellectual, verbal, motor, perceptual-motor, and perceptual task performance levels of preschool psychotic children was outlined in some detail. Also presented to illustrate the battery's application was an experimental comparison of 65 psychotic (11 early schizophrenic, 19 primary autistic, and 35 secondary autistic) and 29 non-psychotic subnormal children (4 to 6-year-old). The comparison involved selected adaptive (nonverbal intellectual and perceptual-motor), verbal, and motor tasks, all also performed by 3 normal children. Subnormal children were reported to be significantly more advanced than the schizophrenic in 2 motor tasks, as well as significantly more advanced than primary Ss in all tasks excepting the Seguin formboard and stair climbing. Primary autistic children were found to be better at stair climbing than the schizophrenic whose motor performance profiles proved similar to those of lower functioning autistic children. Discussion focused on etiological implications of results. (From ECEA, 1973, 5 (2), Abstract No. 051327).

736. Douglas, V.I., & Sanders, F.A. (1968). A pilot study of Rimland's diagnostic check list with autism and mentally retarded children. Journal of Child Psychology & Psychiatry, 9, 105-109.

An experimental Diagnostic Check List for Behavior-Disturbed Children, developed by Rimland (1964) was tested for its effectiveness in differentiating between 2 groups, one of which had previously been diagnosed as manifesting infantile autism, the other, mental retardation. The instrument was highly effective in discriminating between the two groups. Only one child among thirteen in the retarded group fell within the range of scores obtained by the thirteen children in the infantile autism group. However, none of the infantile autism cases reached the cut-off point established by Rimland for a diagnosis of infantile autism. (From CDA, 1970, 44 (3-4), Abstract No. 710).

737. Ferrari, M. (1980). Comparisons of the Peabody Picture Vocabulary Test and McCarthy Scales of Children's Abilities with a sample of autistic children. *Psychology in the Schools*, *17*, 466-469.

The Peabody correlated significantly with the McCarthy General Cognitive Index, Verbal Scale, Perceptual Scale, and Memory Scale. A significant difference between the means of the two tests was found, with the Peabody yielding lower scores. (From CIJE, 1981, Abstract No. EJ236144).

738. Freeman, B.J., et al. (1978, August). *The Behavior Observation Scale for Autism (BOS): Factor analysis of behaviors.* Paper presented at the Annual Meeting of the American Psychological Association, Toronto, Canada.

Data on 36 autistic, 30 mentally retarded (MR), and 22 normal children (23-65 months old) was collected to develop a method of objective behavioral assessment for diagnosing autism and documenting symptom changes over time. Ss were observed and rated on the Behavior Observation Scale, an instrument which contains 67 objectively defined behaviors in the areas of general behaviors, language, response to stimuli, attending response, response to being held, inappropriate response to pain, and motility disturbance to stimuli. Factor analyses were performed for each diagnostic group. When the individual groups were examined, the autistic group could best be characterized by behaviors reflecting inappropriate interaction with people and objects; the MR group could best be characterized by solitary behaviors; and the normal group behavior could best be characterized by appropriate interactions with people and objects. (Operational definitions and procedures are detailed and factor analyses of the preliminary data on 89 children are reported). (From ECEA, 1980, *11* (4), Abstract No. 114797).

739. Freeman, B.J., et al. (1979, September). The Behavior Observation Scale for Autism: Frequency analysis. Paper presented at the Psychological Association Meeting, New York, NY.

Frequency data are reported from a research project aimed at developing the Behavior Observation Scale (BOS), an objective assessment tool for establishing the diagnosis of autism. The goals of the BOS are to differentiate autistic, normal, and mentally retarded children (ages 30 to 60 months) along objective symptom axes involving 67 behaviors. Operational definitions and procedures are described, and frequency analyses of the preliminary data based on 140 children are reported. These data indicated that in order to determine the diagnostic importance of any behavior, both the frequency of occurrence and percentage of children exhibiting the behavior must be considered simultaneously. The results are discussed in terms of methodological problems encountered in attempting to establish objective diagnostic criteria for the syndrome of autism. (From ECEA, 1980, 12 (3), Abstract No. 122888).

740. Freeman, B.J., Gutherie, D., Ritvo, E., Schroth, P., Glass, R., & Frankel, F. (1979). Behavior Observation Scale: Preliminary analysis of the similarities and differences between autistic and mentally retarded children. Psychological Reports, 44, 519-524.

Autistic and mentally retarded children matched for chronological and mental age were observed in a playroom. The frequencies of occurrence of 67 objectively defined behaviors were coded on the Behavior Observation Scale. (From ECEA, 1980, 54 (1-2), Abstract No. 364).

741. Freeman, B.J., et al. (1981). Behavioral characteristics of high- and low-IQ autistic children. American Journal of Psychiatry, 138 (1), 25029.

In order to objectively differentiate autistic, normal, and mentally retarded children (aged 30-60 mos) the authors developed the Behavior Observation Scale. Describes operational definitions and procedures and reports on the frequency of selected behaviors among 114 Ss. Previous studies have noted the importance of considering concurrently, both the frequency of occurrence per S and the number of children exhibiting the behaviors, in order to assess the clinical significance of behaviors in autistic children. This study supports the hypothesis that when assessing the clinical significance of individual behaviors and groups of behaviors, it is critical to consider IQ. (From PA, 1981, 65 (2), Abstract No. 6823).

742. Freeman, B.J., Ritvo, E.R., Tonick, I., Guthrie, D., & Schroth, P. (1981). Behavior observation system for autism: Analysis of behaviors among autistic, mentally retarded, and normal children. Psychological Reports, 49, 199-208.

The Behavior Observation Scale is being developed to differentiate autistic, normal, and mentally retarded children of ages 30-60 months. Operational definitions, procedures, and frequency data from 140 children are reported. (From CDA, 1982, 56 (3-4), Abstract No. 1318).

743. Freeman, B.J. (1976). Evaluating autistic children. Journal of Pediatric Psychology, 1 (3), 18-21.

The author reviews the literature supporting the conclusion that IQ tests are of prognostic value with autistic children and recommends several behavioral techniques, such as positive reinforcement and ignoring interfering behaviors, for use in the testing situation. (From ECEA, 1977, 9 (3), Abstract No. 091889).

744. Freeman, B.J., et al. (1978). The Behavior Observation Scale for Autism. Initial methodology, data analysis, and preliminary findings on 89 children. Journal of the American Academy of Child Psychiatry, 17 (4), 576-588.

The theoretical framework for the Behavior Observation Scale (BOS), which codes objectively defined behaviors independent of any theoretical model of pathological development, is presented and results of a study involving 36 autistic, 30 mentally retarded, and 23 normal children (1 to 5 years old) are discussed. Discriminant analyses are said to indicate that the presence of Communicative Speech appears to play a major role in differentiating the groups; that the BOS can discriminate normal from autistic and retarded Ss; and that some discrimination is possible between retarded and autistic Ss, but there remains a great deal of overlap between the two groups. (From ECEA, 1979, 11 (3), Abstract No. 3624).

745. Ito, N., & Yamazaki, K. (1974). A consideration of behavior changing patterns in autistic children. Japanese Journal of Child Psychiatry, 15, 55-68.

Eighteen autistic children were evaluated on a checklist of 16 items from Kanner and Ruttenberg. Three independent ratings were obtained. Ss were followed for 18 months and behavior evaluate 4 times during that period. Four behavior items particularly characterized these children: rocking, rotating, and stylized motion; patting, touching, warm or cool things, playing with water; temper tantrum directed toward a definite object or person; and compulsive behavior. Children who verbalized more appeared to be somewhat less severe in symptoms. (From CDA, 1975, *49* (3-4), Abstract No. 814).

746. Kalish, B.I. (1976). Body Movement Scale for autistic and other atypical children: An exploratory study using a normal group and an atypical group. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI 48106.

In a study designed to provide normative data for the Body Movement Scale, one of eight scales of the Behavior Rating Instrument for Autistic and other Atypical Children (BRIACC), 75 autistic children and 195 controls (1 to 5 years old) were observed and scored by trained BRIACC raters. Findings suggested the feasibility of using these scales as a screening instrument for evaluation of development in some areas of the functioning of preschool children. (From ECEA, 1978, *10* (1), Abstract No. 101068).

747. Krug, D.A., Arick, J., & Almond, P. (1980). Behavior checklist for identifying severely handicapped individuals with high levels of autistic behavior. *Journal of Child Psychology and Psychiatry*, *21*, 221-229.

An autism checklist was developed with behaviors selected from a variety of checklists and instruments used to identify autism. Analysis indicated that 55 of the 57 behaviors listed were predictors of autism when compared with severe mental retardation. (From CDA, 1981, *55* (3-4), Abstract No. 1079).

748. Lichstein, K.I., & Wahler, R.G. (1976). The ecological assessment of the autistic child. *Journal of Abnormal Child Psychology*, *4* (1), 31-54.

The behavior of an autistic child (5 years old) was observed in three settings, over approximately 6 months. Sixteen behaviors of the child and six behaviors of adults and peers were recorded. A cluster analysis was performed to identify response classes within the behavioral structure of the child and to see if correlations existed between response and stimulus events. The autistic child exhibited a diversity of behavior over time in a given setting and across settings. He persistently ignored other nonautistic children, although he was responsive to adults. Response classes reflected an inverse correlation between the child's self stimulatory behaviors and his attentiveness to the environment. Elevated levels of adult attention were consistently related to reduced levels in most self stimulatory behaviors. Two response classes showed inverse relationships between self stimulatory behaviors. (From ECEA, 1977, 9 (3), Abstract No. 091870).

749. Makita, K., & Umezu, K. (1973). An objective evaluation technique for autistic children: An introduction of CLAC scheme. Acta Paedopsychiatrica, 3 (8/9/10), 237-253.

An objective evaluation technique for autistic children, specifically designed as a convenient method of evaluating therapeutic efficacy, is introduced. A brief series of questionnaires was devised under the name of "Check List for Autistic Children"; the results of the evaluation on rating scales were transcribed on radiant psychograms. The size and the shape of polygons which resulted from the linking of the rating points illustrate the quantitative progress and the areas of better or poorer improvement. The scheme is a by-product of experience with the operant conditioning technique in treating autistic children. (From LLBA, 1973, 7 (2), Abstract No. 7304328).

750. Marcus, L.M. (1978). Developmental assessment as a basis for planning educational programs for autistic children. Behavioral Disorders, 3 (3), 219-226.

The article describes an instrument- the Psychoeduational Profile (PEP) - that provides a comprehensive evaluation of developmental functioning and behavior, and discusses the utilization of such data in planning individualized educational programs for autistic children. Factors involved in programming from assessment data are considered, including the understanding of the child's abilities, selection of realistic goals and methods, and anticipation of potential management problems. Two case studies are presented to demonstrate the process of developing a teaching program based on information derived from the PEP. Among the conclusions presented is that viewing the autistic child as developmentally disabled with specifiable handicaps and determining a starting point for educational goals from a comprehensive assessment can reduce initial uncertainty and confusion and provide a framework for ongoing education. (From ECEA, 1979, 11 (1), Abstract No. 111371).

751. Marui, F., et al. (1974). Research on adjustment in groups of autistic children. (Japn). Bulletin of the Fasculty of Education, U. Nagoya, 21, 105-150.

The authors observed the adjustment of 13 Japanese autistic children to participation in groups in kindergarten or elementary school for periods of over a year. Adjustment to groups was not found to always improve with CA but depended on features of the child's syndrome. (From PA, 1977, 58 (2), Abstract No. 9654).

752. Masters, J.C., & Miller, D.E. (1970). Early infantile autism: A methodological critique. Journal of Abnormal Psychology, 75 (3), 342-343.

Examines the available evidence in support of early infantile autism (EIA) as an observable syndrome of related behaviors. It is proposed that the 1 psychometric instrument designed to detect EIA does not significantly improve upon a base-rate prediction. Criticism is offered concerning the nature of the criterion against which the instrument has been validated (diagnosis by a clinician) as well as the nature of the instrument itself (parental ratings, often retrospective). It is concluded that EIA has not yet been validly and empirically demonstrated as a unitary behavior disorder which may be reliably discriminated from other severe disturbances of child behavior. (From LLBA, 1970, 4 (2), Abstract No. 003736).

753. Matthys, H.P. (1966). Katamnestische Untersuchungen bei autistischen Kindern unter speieller Berucksichtigung des Rorschachtestes. Catamnestic studies of autistic children with special emphasis on the Rorschach tests. Praxis der Kinderpsychologie und Kinerpsychiatrie, 15 (4), 123-129.

The authors present part 2 of a study of 3 children severely handicapped by heredity and environment. (From PA, 1966, 40 (2), Abstract No. 12529).

754. Mukuma, D. (1980, April). A rating scale for untestable children: BRIAAC. Paper presented at the Annual International Convention of The Council for Exceptional Children, Philadelphia, PA.

An evaluation instrument (BRIACC) for assessing untestable children is described. The observational tool is said to be particularly appropriate for autistic and other severely withdrawn children. The BRIACC assesses level of present function and measures behavior changes in the following areas: relationship with an adult (physically and emotionally), communciation with peers and adults, drive for mastery, vocalization and expressive speech, sound and speech reception, social responsiveness, body movement, and psychobiological development (from primitive to later personality characteristics). Scoring procedures are described. (From ECEA, 1980, 12 (4), Abstract No. 124345).

755. Olley, J.G., et al. (1981). The Autism Attitude Scale for

Teachers. *Exceptional Children*, *47* (5), 371-372.

The authors review the Autism Attitude Scale for Teachers, utilized to assess the attitudes of teachers whose schools would receive autistic pupils for the first time. It consists of a 32-item list and is also designed to evaluate the effect of inservice training for those teachers. Data from 95 regular education teachers verified the reliability. (From PA, 1981, *65* (2), Abstract No. 6858).

756. Prior, M., & Bence, R. (1975). A note on the validity of Rimland's Diagnostic Checklist. *Journal of Clinical Psychology*, *31* (3), 510-513.

The Diagnostic Check List was administered to parents and teachers of 9 psychotic (autistic) children aged 3-8 years. The tendency for teachers to see the children as more abnormal than the parents, in certain areas of behavior and ability levels, was indicated through discrepancies between the parents and teachers assessments of the children. Although the checklists remains valid, the findings suggest that the the checklist should be considered an underestimation of the severeity of child's handicap. (From PA, 1976, *56* (2), Abstract No. 9009).

757. Radford, D. (1979). A question of autism. *Journal of Child Psychotherapy*, *5*, 5-23.

A three-year-old boy, David, with an autistic seven-year-old brother, was beginning to show signs of autism. A detailed, metapsychological understanding of the case, based on Anna Freud's Diagnostic Profile, is presented. It concluded that while David was not yet autistic, there were indications that he might progress to a point where he would appear as if he were. (From CDA, 1981, *55* (3-4), Abstract No. 1105).

758. Rendle-Short, J., & Clancy, H.G. (1968). Infantile autism. *Medical Journal of Australia*, *1* (21), 921-922.

Presents 14 behavioral symptoms to be used as as screening test to make early diagnosis of autism easier. Clinical examinations, with IQ assessment and EEG and urine amino acid tests are to follow this screening test. (From PA, 1968, *42* (2), Abstract No. 17398).

759. Rimland, B. (1971). The differentiation of childhood psychoses: An analysis of checklists for 2,218 psychotic children. *Journal of Autism and Childhood Schizophrenia*, *1* (2), 161-174.

The author describes his Form E-2 checklist method for the diagnosis of early infantile autism and differentiation of other childhood psychoses. Data on 2,218 psychotic children, 1,652 boys and 556 girls, are presented. The checklists showed 9.7% of the children to have early infantile autism, thus providing a confirmation of Kanner's 1962 estimate that only 10% of his patients called autistic by others were correctly diagnosed. Also presented are data showing that among 445 psychotic children seen by two different diagnosticians, only 55 had been assigned the same diagnosis twice. Laboratory studies and other sources are cited to show that Form E-2 is effective in differentiating truly autistic from autistic-type children. Other aspects of the problem of diagnosing psychotic children are discussed. (From ECEA, 1972, 3 (4), Abstract No. 032593).

760. Rimland, B. (1974). Infantile autism: Status of research. Canadian Psychiatric Association Journal, 19 (2), 130-133.

The free use of the term "autistic" by researchers interested in child psychoses too often confuses the results and prevents certain conclusions. A verification list, Form E-2, has been developed which differentiates between the sub-group of classic infantile autism (Kanner syndrome) and other infantile psychoses. Two studies on outflow of serotonin from blood platelets and one on megavitamin therapy confirm the same distinction in the Kanner sub-group as that produced by Form E-2. (From LLBA, 1974, 5 (2), Abstract No. 7405952).

761. Ruttenberg, B.A., Dratman, M.L., Fraknoi, J., & Wenar, C. (1966). An instrument for evaluating autistic children. Journal of the American Academy of Child Psychiatry, 5 (3), 453-478.

Presents an instrument for evaluating autistic children, consisting of 4 core sclaes. Psychometric properties and description of the scale is provided. (From PA, 1966, 40 (2), Abstract No. 12457).

762. Rutter, M. (1973). The assessment and treatment of preschool autistic children. Early Child Development and Care, 3, 13-29.

It is argued that there are serious drawbacks to regional assessment centers. A broad-based appraisal is required. Assessment and treatment are inextricably linked, and both must be viewed from a developmental perspective with reevaluation as the children change with age. Treatment should be mainly focused on aiding social and linguistic development and reducing the tendency to develop rigid stereotyped patterns. A home-based approach is appropriate. Inpatient care is of only limited usefulness and is unnecessary for most children. One assessment clinic for a child population of 80,000 should be adequate, and approximately 2 full-time therapists would be needed to cope with the treatment needs of autistic children from the same population. (From CDA, 1975, 49 (1-2), Abstract No. 323).

763. Schopler, E., et al. (1980). Toward objective classification of childhood autism: Childhood Autism Rating Scale (CARS). *Journal of Autism and Developmental Disorders*, *10* (1), 91-103.

Analysis of scores of 537 autistic children on the Childhood Autism Rating Scale is presented and the administration, composition, and scoring of the scale is discussed. Findings noted include the scale's ability to distinguish two groups of autistic Ss from other developmentally disabled Ss. (From CIJE, 1981, Abstract No. EJ238489).

764. Sloan, J. (1981). Some findings on the use of the Adaptive Behavior Scale with autistic children. *Journal of Autism and Developmental Disorders*, *11*, 191-199.

The first study compared ratings by parents and teachers on the same child. More significant correlations were found on adaptive scales than on behavior scales. The second study examined change measured across an academic year. Significant change was more likely on adaptive scales than on behavior scales. (From CDA, 1982, 56 (3-4), Abstract No. 1377).

765. Wassing, H.E. (1965). Cognitive functioning in early infantile autism: An examination of four cases by means of the Wechsler Intelligence Scale for Children. *Acta Paedopsychiatrica*, *32* (4), 122-135.

Presents the syndrome of early infantile autism as a manifestation of a cognitive dysfunction, a defective language development with inability to reach the symbolic level. (From PA, 1965, 39 (2), Abstract No. 15376).

766. Wenar, C., & Ruttenberg, B. (1976). The use of BRIAC for evaluating therapeutic effectiveness. *Journal of Autism and Childhood Schizophrenia*, *6* (2), 175-191.

Forty-six autistic children (3 to 9 years old) in eight

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different psychotherapeutic settings were evaluated at the beginning and at the end of a 12-month period by means of the Behavior Rating Instrument for Autistic Children. The younger children (3 to 6 years old) were initially more severely disturbed and improved significantly more than the older children (7-9 years old). The custodial residential center produced significantly less improvement in the children than did the other settings. However, among good programs i.e., those which were sensitive to the behaviors and needs of the children and which were skillfully implemented by a dedicated and attentive staff, there was little evidence of differences in therapeutic effectiveness regardless of whether the therapy was behavior modification, education, psychoanalytically oriented relationship therapy, or activity therapy. (From ECEA, 1977, 9 (1), Abstract No. 090043).

767. Wolff, S. (1979). Schizoid personality in childhood: A comparative study of schizoid, autistic, and normal children. Journal of Child Psychology and Psychiatry, 20, 29-46.

Schizoid children, high-grade, speaking autistic children, and normal children matched for age, sex, and intelligence were compared. Children with schizoid personality disorder were distinct from both normal and autistic children. In all cognitive, language, and memory tests, the schizoid children were more distractable than the normal group. (From CDA, 1980, 54 (3-4), Abstract No. 903).

768. Allan, J. Some uses of "holding" with autistic children. Special Education in Canada, 51 (3), 11-15.

Certain aspects of autistic children's behavior can be changed through the use of holding to contain or arouse the child. Evidence indicates that as infants many autistic children exhibit extreme bodily conditions (hyperactivity, hypoactivity, and/or muscular rigidity), lack a normal mother-infant relationship, experience emotional deprivation, and maintain infantile or fearful behavior into later childhood. Holding for relaxation uses physical restraint to reduce the child's tenseness or manneristic, destructive behavior. Holding for pleasure, used after or instead of the relaxation stage, involves tickling, cuddling, bouncing, or rocking to reduce passive, rigid, or unhappy behavior. (From ECEA, 1978, 10 (1), Abstract No. 100633).

769. DesLauriers, A.M. (1978). The cognitive-affective dilemna in early infantile autism: The case of Clarence. Journal of Autism and Childhood Schizophrenia, 8 (2), 219-232.

The case study presents long term followup data on Clarence, one of L. Kanner's original cases of infantile autism. Clarence's attempts to establish a heterosexual relationship and his plans for marriage are described. His success is attributed in part to therapeutic intervention, which was directed at promoting affective responsiveness in the patient. The case of Clarence is seen as lending support to the thesis of DesLauriers and Carlson (1969), who maintain that the core problem in infantile autism is a disturbance of affective contact. (From ECEA, 1979, 11 (1), Abstract No. 110796).

770. Schopler, E. (1962). The development of body image and symbol formation through bodily contact with an autistic child. Journal of Child Psychology & Psychiatry, 3 (3-4),191-202.

Reports on a 5 year-old girl's treatment in order to aleviate distorted bodily feelings and language. (From PA, 1964, 38, Abstract No. 1098).

771. Alvarez, A. (1980). Two regenerative situations in autism: Reclamation and becoming vertebrate. Journal of Child Psychotherapy, 6, 69-80.

Two situations are described in which a very withdrawn autistic boy came to life during lengthy psychoanalytic treatment. The first, called reclamation, may be related to an ordinary maternal function. It is illustrated with observations of two normal infants. The second concerns the patient's discovery of his therapist's and later his own, firmness and backbone as a positive and enlivening thing. (From CDA, 1982, 56 (1-2), Abstract No. 548).

772. Alvarez, A. (1972). Problems of dependence and development in an excessively passive autistic boy. Journal of Child Psychotherapy, 4 (3), 25-46.

This paper describes a 10-year interrupted period of psychoanalytic therapy of an autistic boy which began when he was aged 7. His intolerance of anxieties about separation led frequently to states of psychic dissolution and mindlessness. As he improved, he employed two different methods for achieving contact: one was designed to prevent innovation and development, while the other permitted change and growth in himself and his internal objects. The author discusses the difficulty of distinguishing between this withdrawn boy's real need to be sought out in the transference and his passive exploitation of this situation. (From CDA, 1979, 53 (3-4), Abstract No. 823).

773. Cuevas, C., & Pablo, A. (1975). Psychoanalytic understanding of infantile psychosis. (Span). Neurologia, Neurocirugia, Psiquiatria,, 16 (3), 177-182.

The authors review psychoanalytic theories which confirm the positive effect of such treatment with autistic children. Briefly describes the clinical history of a 3 yr-old male autistic child. Presents a summary of the contributions of various classical authors, including M. Mahler and the symbiotic separation-individuation processes, M. Klein and the schizo-paranoid mechanisms, and treatment based on the transference-countertransference phenomenon analysis. (From PA, 1977, 57 (1), Abstract No. 3795).

774. Durham, M.S. (1972). Pandora's box: The fantasies of an autistic-like child. Journal of the American Academy of Child Psychiatry, 11 (2), 255-269.

Eric, a child who exhibited many of the characteristics of autism, responded very favorably to a program which was limited to one and later two therapy hours weekly. During this time, he enjoyed a very benign foster home placement. When treatment was interrupted at the end of 18 months, he had made considerable gains. Rather early in treatment he formed an attachment to the therapist, and as trust developed, he became able to try to resolve his severe relationship problems. As communicative language developed, he shared with the therapist many deeply troubling fantasies. Through these fantasies he was able to state many of his conflicts, and to make them available to therapeutic interpretation. At the termination of treatment, Eric was still a very troubled child, but he had developed considerable strength, and he had made marked progress in his ability to form relationships. This experience would seem to demonstrate that under favorable environmental conditions, a profoundly withdrawn child severely deprived in his earliest years, can use once- or twice-weekly psychotherapy in a most meaningful and beneficial way. (From LLBA, 1975, 9 (1), Abstract No. 7500763).

775. Eyre, D.P. (1979). Beginning psychoanalysis of a 16 yr-old autistic girl: The first three months. Canadian Journal of Psychiatry, 24 (7), 652-660.

The first three months of psychoanalysis of a 16 yr-old autistic female is examined. Discusses expulsion, projection, separation anxiety, and mirroring. Outlines the difficulties of psychoanalysis with such a patient. (From PA, 1981, 66 (1), Abstract No. 1705).

776. Fordham, M. (1966). Notes on the psychotherapy of infantile autism. British Journal of Medical Psychology, 39, 299-311.

777. Garcia, B., & Sarvis, M.A. (1964). Evaluation and treatment planning for autistic children. Archives of General Psychiatry, 10 (5), 530-541.

Describes a psychoanalytically oriented but flexibly implemented approach to the evaluation of and treatment planning for autistic children and their families. Differentiates between the etiological hypothesis of both the purely psychogenic and the purely organic schools. Emphasizes the impossibility of separating evaluation and treatment. Also discusses therapeutic techniques and implications. (From PA, 1965, 39 (1), Abstract No. 5728).

778. Giannotti, A. (1981). Nascita e autismo: Conssideraioni sull relazione psicotica preoce madre-bambino. Eta Evolutiva, 10, 58-65.

Clinical material relative to the sessions of mother and child in psychotherapy for infantile autism is presented. It is stressed that the vicissitudes of the treatment highlight the same difficulties that mother and infant have faced in the attachment and separation-individuation phase. (From CDA, 1982, 56 (5-6), Abstract No. 1837).

779. Handford, H.A., & Alan, J. (1969). Structural therapy: A developmental approach to the treatment of early infantile autism. Schizophrenia, 1 (4), 243-248.

Theoretical background and use of structural therapy with autistic children is described. Phases of therapy which are developmental in nature are explained. Reinforcement by other persons dealing with the children is noted. (From ECEA, 1971, 2 (4), Abstract No. 005858).

780. Helm, D. (1976). Psychodynamic and behavior modification approaches to the treatment of infatile autism: Empirical similarities. Journal of Autism and Childhood Schiophrenia, 6 (1), 27-41.

In the treatment of infantile autism, behaviorists emphasize directed behavioral change while psychodynamic therapists tend to focus attention on the worker-child relationship. A review of the literature suggests that both of these aspects of intervention are important, and that both play a role in virturally all therapeutic efforts. The similarities in methods of intervention found in the work of investigators of very different theoretical persuasion raise the possibility that most treatment methods owe more to empirical clinical experience than to their persumed derivation from a theoretical model. The case study of an 11-year-old autistic boy exemplifies the use of physical contact within the behavior modification approach. (From ECEA, 1976, 8 (3), Abstract No. 082027).

781. Holter, F.R. (1971). Initial interventions in psychotherapeutic treatment of autistic children. Journal of Autism and Childhood Schizophrenia, 1 (2), 206-214.

General considerations (conceptual approach, anamnesis, and group observations), and individual aspects of initiating treatment are discussed in light of psychoanalytically oriented therapeutic experience. Brief clinical examples from case histories of nine children, diagnosed in accordance with Kanner's (early infantile autism) and Mahler's (primary and secondary autism) descriptions, and exposed to intensive outpatient treatment, both in a day-care center and in private practice, are presented to illustrate the approach. Suitable interventions are made by following the child's cues within a developmental frame of reference. Such interventions yield significant common experiences which are remembered rather than shut out, and can be utilized to establish widening dialogues, and interaction and, eventually, a relationship between the child and therapist. (From LLBA, 1971, 5 (4), Abstract No. E05062).

782. Kemper, K.A. (1973). Countertransference as the deciding factor in establishing communication with a 3-4 year-old girl. Estudos de Psicanalise, 6, 21-32.

Presents the case of a World War II orphan who was abondoned in 1945. The child received psychotherapy utilizing maternal countertransference. A breakthrough was brought about in verbal communication after a traumatic incident released uninhibited maternal emotions from the therapist. Ten months later, therapy terminated with typical age-level behavior. Total duration of therapy was 16 mos. (From PA, 1975, 53 (1), Abstract No. 1619).

783. Lush, D. (1968). Progress of a child with atypical development. Journal of Child Psychotherapy,2.

A 3-year-old girl referred for lack of speech, affectionless attitude to people, many phobias, obsessional rituals, and mannerisms was tentatively diagnosed as autistic. The patient's speech improved while waiting for treatment and reasons are suggested for this. Twice-weekly analytically based psychotherapy brought relief of her symptoms and changed her attitude to people, and she became responsive and affectionate. Description is given in detail of 2 therapy sessions with discussion of material and theoretical concepts. Reasons for the patient's atypical development are suggested as are reasons for her recovery and ability to use the treatment. (From CDA, 1970, 44 (1-2), Abstract No. 353).

784. Lutz, J. (1968). zum verstandish des autismus infantum als einer Ich-Einpragungsstorung. Towards the understanding of infantile autism as a disturbance of ego-consciousness, ego-activity and ego-imprint. Acta Paedopsychiatrica, 35 (4-8), 161-177.

Describes autism as a disintegration of personality because it is characterized by object-relation disorders and by intraphysical disturbances. Ego disturbances are found in various degrees and improve over time. A relationship with schizophrenia is found in severe forms. The intellectual, emotional, and volitional possibilities are not impaired because the ego is in control of the body-psyche. Etiological theories describe the causes of ego disturbances as manifold, predisposition, organic, and reactive. Autism as an ego disturbance is a valuable starting point for therapy and orthoeducation. (From PA, 1969, 43 (1), Abstract No. 4235).

785. Lutz, J. (1974). Toward better understanding of infantile autism as a disturbance of ego awareness, ego activity, and ego imprint. International Journal of Mental Health, 3 (1), 74-89.

The author reviews infantile autism from the therapy of developmental psychology. Marks of disintegrated personality including stereotyped movements, delay in ego awareness, speech disorders along with disorders in relations with the external world were all characteristics displayed by eight Ss. The concept of autism as an ego disturbance is concluded to be a valuable beginning for therapy. Improvements have been noted in many cases over a few years. (From PA, 1976, 55 (1), Abstract No. 849).

786. MacDonald, R.T., & Allan, J.A. (1975). The use of fantasy enactment in the treatment of an emerging autistic child. Journal of Analytical Psychology, 20 (1), 57-68.

Reviews the therapeutic approach to an autistic child which employed several techniques. The most important approaches were following and enacting the child's fantasies, limit setting to release perseverative fantasies, reflection of feeling contained in fantasies, and limited interpretation of unconscious processes. (From PA, 1975, 54 (1), Abstract No. 5770).

787. Needleman, M., & Ward, A.J. (1972). The role of shared mastery in therapy with autistic and schizophrenic children. Psychotherapy: Theory, Research & Practice, 9 (1), 51-53.

The authors discuss the contention that the initial strategic goal of therapy, once favorable contact is established, is to initiate and develop competence so that the child desires further communication with the world. Presented in a strategem of graded levels, psychological encounters are aimed at giving the child a sense of mastery. (From PA, 1973, 50 (1), Abstract No. 5468).

788. Riley, C. (1977). Problems of dependence and development:

Discussion. *Journal of Child Psychotherapy*, *4* (3), 47-48.

Discusses the case of Bobbie-an autistic boy treated by A. Alvarez. Notes the absence of direct material concerning jealousy and rivalry as described in material from other autistic children who appeared preoccupied with these problems. (From PA, 1980, *64* (1), Abstract No. 1550).

789. Roiphe, H. (1973). Some thoughts on childhood psychosis: Self and object. *Psychoanalytic Study of the Child*, *28*, 131-145.

The author describes the case history of a psychotic 3 1/2 year-old girl who received treatment as part of a program studying the separation-individuation phase in normal and psychotic children. Her movement about the playroom was aimless and her actions repetitive. In the second half of the first year, her development was aberrant. The S was exposed to impressive therapeutic treatment and withdrew from her autistic world. However, treatment was unsuccessful in that after two years she was placed in an institution by her parents. (From PA, 1974, *52* (1), Abstract No. 5866).

790. Tustin, F. (1966). A significant element in the development of autism: A psycho-analytic approach. *Journal of Child Psychology and Psychiatry*, *7*, 53-67.

791. Tustin, F. (1967). Psychoanalytic psychotherapy with autistic children. *Association of Psychotherapists Bulletin*, *7*, 32-39.

The author examines therapeutic processes involved in treating autistic children. Differentiates autism and allied syndromes from childhood schizophrenia syndromes. Describes a technique for treatment which involves firm and consistent behavior on the part of the therapist. Examines the phases that occur during treatment. (From PA, 1968, *42* (1), Abstract No. 7413).

792. Tustin, F. (1969). Autistic processes. *Journal of Child Psychotherapy*, *2* (3), 23-42.

The author notes that in an earlier study on the development of autism, the significant element was a mouth-experienced type of depression. The afflicted children who became aware of the removal of the nipple from their mouth at too early an age and in a manner which was unduly abrupt and harsh. The author describes secondary autistic processes of encapsulation which were set in train by this primal depression and which protected a 14-yr old boy from feeling he was falling apart and compensated for feeling "let down" by the nursing circumstances. (From PA, 1972, 47 (1), Abstract No. 3395).

793. Ward, A.J. (1979). An application of structural therapy to the residential treatment of early infantile autism. Schizophrenia, 2 (2-3), 92-100.

The author reports on a treatment approach (structural therapy) to the syndrome of early infantile autism which is based on many conceptions of DesLauriers' structural therapy. An overview of structural therapy, a collection of active, intrusive techniques is given. Early infantile autism is discussed in terms of behavioral ego, the importance of varied stimulation, and etiology. Presented are the theoretical and strategic modifications of structural therapy for application in the treatment of EIA (instead of verbal, adolescent schizophrenic patients, for whom it was originally designed as a means of stimulation by concentrating on the improvement of fragmented body ego and body image). The guidelines by which therapists have been trained in structural therapy are explained. All the phases of treatment deal with a gradual increase in the level of physical, verbal, olfactory, kinesthetic, and affective stimulation given to a child. Some results of this treatment approach with 21 autistic and schizophrenic children, ages 6-12 years, are mentioned. (From ECEA 1971, 3 (1), Abstract No. 030287).

794. Ward, A.J. (1980). Early childhood autism and structural therapy: Outcome after 3 years. Journal of Consulting and Clinical Psychology, 46 (3), 586-587.

Examines the effect of three years of structural therapy on inpatient cases of early childhood autism (ECA). Treatment resulted in the discharge of twelve patients. Results indicate that high stimulation, physically intrusive, gamelike, novelty filled, and developmentally oriented treatment of structural therapy can produce significant improvements in cases of ECA. (From CIJE, 1980, Abstract No. EJ 221024).

795. Ward, A.J. (1972). The use of structural therapy in the treatment of autistic children. Psychotherapy: Theory Research, and Practice, 2 (1), 46-50.

Concepts of body ego and behavioral ego are discussed along with their relation to the etiology of autism. Suggests that children with early infantile autism are completely lacking in the development of any body ego and that this allows for a deviant ego development. It is believed that autistic children have suffered from a deficit of novelty, variation, and patterned stimulation in their early development. This deficit can be traced to three sources. (From PA, 1973, 50 (1), Abstract No. 5592).

796. Epstein, N. (1977). Group therapy with autistic/schizophrenic adolescents. Social Casework, 58 (6), 350-358.

Described is the development of a group therapy program for severely emotionally disturbed and autistic children (12 through 14 years old). The group is said to have used a strict nonpermissive atmosphere, an emphasis on reality, and positive reinforcement for appropriate behavior. Two case studies are provided to highlight progression through the group structure. (From ECEA, 1978, 10 (1), Abstract No. 100094).

797. Gratton, L., & Rizzo, A.E. (1969). Group therapy with young psychotic children. International Journal of Group Psychotherapy, 19 (1), 63-71.

The authors validated the hypothesis that psychotic children would show their problems in group situations. The Ss (N=7) withdrawal, lack of involvement with people, exclusive preoccupation with inanimate objects and their unresponsiveness of panic when approached demonstrated their obvious fear of human contact and their disturbed capacity to reality. It is suggested that 4 or 5 years of therapy would be needed to reach neurotic or near-normal levels of functioning in these Ss. (From PA, 1970, 44 (1), Abstract No. 2470).

798. Graziano, A.M. (1970). A group treatment approach to multiple problem behaviors of autistic children. Exceptional Children, 36 (10), 765-770.

A small group of severely autistic children involved in an exploratory project to determine whether such psychotic children, who had resisted all previous treatment, could be significantly helped. The various steps in the program of reinforcement of adaptive behaviors are described. Results after four years show that severely psychotic children can learn complex, cooperative, social behavior, academic achievement, and self-control, and that they can be taught to use language. Major autistic characteristics of aloneness and preservation of sameness or severely aggressive and destructive behavior were no longer displayed. It is concluded that nonprofessionals (high school graduates) can be trained in behavioral approaches and can function competently as therapists for children in a behavior modification group program. (From ECEA, 1971, 2 (4), Abstract No. 006197).

799. Ikeda, Y., Narita, T., Katori, J., & Asayma, T. (1974). Group therapy with autistic children and their mothers. (Japn). Journal of Mental Health, 48 (22), 39-50.

Presents a treatment program for 6 autistic children and their mothers. Twelve 2-hr weekly sessions were used to stimulate sensory-motor, social, and verbal activities of the children. Group therapy combined with individaul therapy was found effective. (From PA, 1975, 54 (1), Abstract No. 5932).

800. Masumura, M., et al. (1975). Group therapy of autistic children at an outpatient clinic. (Japn). Japanese Journal of Child Psychiatry, 16 (5), 316-324.

Notes that autistic children must be given regular contacts with normal children to overcome autistic tendencies and achieve successful socialization. Only limited progress can be made in a therapeutic environment. Social prejudice must be countered to allow the expansion of this program and permit the more severely disturbed children to participate. (From PA, 1980, 63 (1), Abstract No. 3727).

801. Murata, T., et al. (1973). A group therapy of autistic children: The result of four Saturday class treatments at Kyushu University Psychiatric Hospital. (Japn). Kyushu Neuro-psychiatry, 19 (2), 170-177.

Presents a group therapy program for autistic children staffed by volunteers at a university hospital. Play therapy was stressed through both group and individual activities. Discusses the problems encountered, mothers and therapists attitudes and mothers participation. Describes two successful cases in detail. (From PA, 1979, 62 (2), Abstract No. 14192).

802. Otake, T., Ueyama, Y., Suzuki, A., Morada, A., & Amemor, T. (1965). The observation of "early infantile autism" through group therapy. Japanese Journal of Child Psychology, 6 (2), 90-96.

For six months, six children suffering from early infantile autism were observed. It was agreed that "the diagnosis of early infantile autism is in many cases based on the behavior of patients whose main symptoms are that they cannot communicate with others or that they talk very little with others." Patients were classified into three categories: those showing symptoms caused by inner factors; those who seem to have symbiotic relationships caused by parental attitudes; those suffering from organic diseases. As a result, it was decided that "each case required its own properly timed treatment" and that they should not all be treated as only "early infantile autism." (From PA, 1966, 40 (1), Abstract No. 582).

803. Yamazaki, K., et al. (1975). An application of group therapy for autistic children in the child unit, Seiryoin, Sapporo Municipal Gneral Hospital. (Japn). Japanese Journal of Child Psychiatry, 16 (2), 103-111.

The authors assigned autistic children (aged 2.10-6.0) to different groups depending on their age and development. There were 6 distinct periods for each group. The actions of the therapist and the quality of interaction with the child must also be observed, noted, and discussed. (From PA, 1979, 62 (2), Abstract No. 14204).

804. Applebaum, E., et al. (1979). Measuring musical abilities of autistic children. Journal of Autism and Developmental Disorders, 9 (3), 279-285.

Three normal children with reported musical ability and three autistic children (all Ss 14 to 18 years old) were tested for the ability to imitate individual tones and series of tones delivered by voice, piano, and synthesizer. Accuracy of imitation was judged by two independent observers on the basis of pitch, rhythm, and duration. The autistic children overall performed as well as or better than the age matched normal children. These results are discussed and their implications for future neurological and clinical research are considered. (From ECEA, 1980, 12 (2), Abstract No. 121301).

805. Benenzon, R.O. (1976). Musicotherapy in infantile autism. (Fren). Vie Medicale au Canada francais, 5 (12), 1257-1264.

Presents the fundamentals of musicotherapy and the therapeutic scheme. Reviews some generalities concerning autism and terminologies of musicotherapy. Describes the author's experiences with musicotherapy as well as two sequence-types and the reactions of the children. (From PA, 59 (2), Abstract No. 10298).

806. Blasco, S.P. (1978). Case study: Art expression as a guide to music therapy. American Journal of Art Therapy, 17 (2), 51-56.

Presented is a case study involving a schizophrenic autistic girl (14 years old) and her reactions to music therapy mediated by drawing. It is explained how the therapy helped the child to lengthen her attention span, modify her compulsive drawing habits, broaden her range of thoughts and feelings, and gain a firmer hold on reality. (From ECEA, 1979, 11 (1), Abstract No. 110045).

807. Boxill, E.H. (1974, November). Developing communication with the autistic child through music therapy. Paper, Tape, and Slides Presented at the American Association for Music Therapy.

The author's use of music therapy is illustrated in her account of therapy sessions with two autistic children. Music is seen to be particularly useful with the autistic child because it can make use of the child's rhythmic stereotypical actions to increase the child's self awareness. Techniques such as reflection (mirroring, through song and movement, the child's actions), and identification (using words of the song to increase the child's self consciousness) are described. (From ECEA, 1979, 10 (4), Abstract No. 103762).

808. Brauner, A. & Brauner, F. (1976). Musical aids to assist therapy in mentally retarded and autistic children. (Fren). Vie medicale au Canada francaise, 5 (10), 1024-1026, 1037-1039.

The authors present music aids and their therapeutic use with mentally retarded and autistic children. Discusses the problems of musical therapy including the rapidly changing response of the psychotic child to music and the possible facilitation of a psychotic child's return to autism. Musico-therapy is not yet an exact science. However, it has proved to be a beneficial method of treating psychological disorders. (From PA, 1978, 59 (1), Abstract No. 5984).

809. Deutsch, M. & Parks, A.L. (1978). The use of contingent music to increase appropriate conversational speech. Mental Retardation, 16 (1), 33-36.

The effect of contingent S-preferred music on reducing the rate of maladaptive behavior was investigated. The S, a 14-year-old autistic M, sat with the experimenter in a series of subsequent, rater-monitored (by tape recordings), 5-minute question sessions. Constant background music similar to the preferred ("Blood, Sweat, & Tears") was played throughout the session. The frequency of mumbling, noncommunicative imitation, & other unsocial vocalizations was significantly reduced in this environment. Since no "live" rater was available, a recognized limitation of this study is the postsession nature of the ratings. However, the interrater reliability was rather high (92%) indicating the overall accuracy of the data. Music should clearly be considered an alternative to other reinforcers, especially with socially maladjusted individuals. (From LLBA, 1980, 74 (3), Abstract No. 8004584).

810. Hollander, F.M., & Juhrs, P.D. (1974). Orff-Schulwrk, an effective treatment tool with autistic children. Journal of Music Therapy, 11 (1), 1-12.

Described is the use of Orff-Schulwerk (a method of music education) to develop communication skills of 30 autistic children between 4 and 16 years of age in a residential treatment program. Noted is the interest in music and its usefulness in the development of nonverbal communication skills. The Orff method is explained to emphasize rhythm in speech and body movement, successful musical experiences, and the use of the rondo to involve each child. Adaptions of the method for autistic children are given to include use of sign language, development of speech, improvement of self concept, and extinction of ritualistic behaviors. Provided is an evaluation checklist to assess functioning in the following areas: body image, receptive language, prepositions (spatial relations), categorizing, simple association, motor expression, fine motor, and sign language. Stressed throughout the program is helping the child to invest himself in a learning situation. (From ECEA, 1974, 6 (3), Abstract No. 061692).

811. Hudson, W.C. (1973). Music: A physiologic language. Journal of Music Therapy, 10 (3), 137-140.

The authors note that several theoretical considerations support the notion that music therapy is useful in treating schizophrenia and autism along with psychotherapy. It is believed that music communicates at the more primitve, physiological level of rhythm and develops a rapport that may not be attainable with conventional language. Music aids the psyche in becoming more complex. Thus, music has the potential to bridge the gap between the language of physiology and the language of consciousness. (From PA, 1974, 51 (2), Abstract No. 11553).

812. Koffer-Ulrich, E. (1967). Musiktherapieim Rehabilitations-programm der Gruppentherapie. (Music therapy in the group therapy rehabilitation program). Psychotherapy & Psychosomatics, 15 (1), 35.

Presents music, as a nonverbal mode of communication, in being productive in reducing autistic blocking. Describes its clinical use through practical examples. (From PA, 1968, 42 (2), Abstract No. 13963).

813. Mahlberg, M. (1973). Music therapy in the treatment of an autistic child. Journal of Music Therapy, 10 (4), 189-193.

Music therapy was used with a 7-year-old autistic boy in residential treatment for the purpose of increasing attention span, reducing autistic behaviors, and teaching nonverbal communciation techniques. Attention was obtained by procedures such as clapping the boy's hands betwen therapist's hands. Various rhythmns on the tambourine were associated with verbal phrases. Action songs resulted in both increased attention and reduced autistic behaviors. Additionally, Jack began to relate to the therapist as a person rather than as an object. (From ECEA, 1974, 6 (2), Abstract No. 060840).

814. O'Connell, T.S. (1974). The musical life of an autistic boy. Journal of Autism and Childhood Schizophrenia, 4 (3), 223-229.

A hyperactive eight year-old autistic boy who had exceptional musical ability and absolute pitch but who was unable to read music was given training in several aspects of music in individual lessons two or three times a week during a four year period. He now reads piano music moderately well and can read melodies and accompany himself with chords at the piano. His behavior improved steadily as he became more competent in musical activities, and his ability to concentrate improved as he was brought to read music and perform it in rhythm without letting his attention wander. His comprehension of music was aided considerably by practice in taking dictation and learning to write the notes of the melodies with the correct rhythmic values. (From LLBA, 1975, 9 (1), Abstract No. 7504191).

815. Saperston, B. (1973). The use of music in establishing communication with an autistic mentally retarded child Journal of Music Therapy, 10 (4), 184-188.

Music was used to establish communication over an 18-month period with an 8-year-old profoundly retarded and autistic boy. The therapist matched certain music patterns to the boy's activity (walking, stomping, rocking, shuffle steps, and hand pounding). At the 20th session the boy showed evidence of understanding that his activities were controlling the music, and consequently increased his activities and frequently smiled. Eye contact was reinforced with a piano pattern and singing of his name. The music therapy appeared to result in increased awareness, eye contact, and vocalizations. (From ECEA, 1974, 6 (2), Abstract No. 060839).

816. Schmidt, D.C., et al. (1976). Reinforcement of autistic children's responses to music. Psychological Reports, 39 (2), 571-577.

Music was used to provide a stimulating atmosphere in which appropriate individual and social behaviors could be shaped in three autistic boys (7 to 10 years old). Behaviors were recorded in alternating individual and sessions and under two conditions (reinforcement and shaping and differential reinforcement). When appropriate behavior was reinforced in both individual and group sessions, appropriate behavior and responses to music increased while inappropriate responses decreased in all children. (From ECEA, 1978, 9 (4), Abstract No. 093040).

817. Stevens, E., & Clark, F. (1969). Music therapy in the treatment of autistic children. Journal of Music Therapy, 6 (4), 98-104.

With the use of Ruttenberg's Autism Scale, music therapy techniques were found to be significantly effective in improving some prosocial behaviors of 5-7 yr-old male autistic children. Suggests the need for a study comparing this treatment to play therapy, or traditional "office" psychotherapy with children. Also suggests an investigation into which variables are interacting here and the degree of their effect. (From PA, 1970, 44 (2), Abstract No. 14968).

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818. Best, J.F., & Jones, J.G. (1974). Movement therapy in the treatment of autistic children. Australian Occupational Therapy Journal, 21 (2), 72-86.

Studied 4 autistic children and the therapeutic effect of a physical activity program. Concluded that Ss were capable of learning motor skills to a discernable level and that a physical acitivity program may contribute to the development of the autistic child's growth. (From PA, 1975, 53 (2), Abstract No. 7806).

819. Davis, D.H. (1975). The balance beam: A bridge to cooperation. Teaching Exceptional Children, 7 (3), 94-95.

A series of exercises was developed at a school for multiply handicapped, brain damaged and autistic children to take advantage of the opportunity for increased cooperation and socialization presented by balance beam activities. The exercises were designed to increase the child's awareness of others through activities in which complete cooperation is necessary. Children have been taught individually until they have become reasonably proficient at balancing objects on a tray while walking the beam alone. Then the children have been engaged in the following dual exercises: balancing an object on a tray between two children walking on the balance beam, balancing objects on hands while walking the beam, and holding an object between two children without the use of their hands as they walk the beam. The exercises have been effective in increasing awareness of others, encouraging cooperation and teaching skills of carrying objects. (From ECEA, 1975, 7 (3), Abstract No. 072292).

820. Dewey, M.A. (1973). Recreation for autistic and emotionally disturbed children. National Institute of Mental Health, (DHEW), Rockville, Md.

Over 200 questionnaire responses from parents of autistic children describing recreational activities that appealed to their children were reported. Recreation is defined as a means of skill development, an outlet for emotions and an inspiration for living. Parents are encouraged to stimulate recreational interests by taking children along on shopping trips, by engaging a child in parallel play to discover the reason for the activity's attraction and also to introduce the child to social recreation and by using community resources. Common sense in choosing activities and in reacting to children's play choices is urged. Children's preferences are listed in the area of toys, collections, music, travel, arts and crafts, playground equipment, dramatics, dance, games, sports, outdoor activities, and other special interests such as mathematics, astronomy and electricity. Also noted are household chores that children viewed as recreational and criteria to be used in evaluating the success of recreational activities such as healthful exercise, release of tension and inculcation of social skills. (From ECEA, 1975, 6 (4), Abstract No. 062418).

821. Jones, J.G., & Best, J.F. (1975). Movement of therapy in the treatment of autistic children: II. Intellectual changes. Australian Occupational Therapy Journal, 22 (1), 15-29.

The authors describe intellectual changes in 4 autistic children (ages 2.10-9 yrs) during their period of motor education. An increase in each child's developmental skills coincided with physical activity and movement therapy. (From PA, 1977, 58 (1), Abstract No. 5790).

822. Kobayashi, R. & Murata, T. (1977). A consideration of the effectiveness of therapeutic camping for autistic children. (Japn). Japanese Journal of Child Psychiatry, 18 (4), 221-234.

Follow-up on forty-five 4-12 yr-old autistic children, who participated in therapeutic camping showed improvements in numerous types of behaviors. It is believed that improvement was a result of group activities and that they are most effective when arranged away from the settings of daily life. (From PA, 1980, 64 (2), Abstract No. 12857).

823. Siegal, E.V. (1973). Movement therapy with autistic children. The Psychoanalytic Review, 60 (1), 141-149.

A group of four multiply handicapped children with diagnosis of chronic childhood schizophrenia and autism received sessions in movement therapy over a period of nine months. A schedule of daily body image exercises and simple rhythmic dances that included the children's own, specific movement patterns, led to the solidification of body image and the useful, conscious recognition of body parts. Body contact and the exploration of both the therapist's and the children's bodies by the children were encouraged. One took the step from echolalia to appropriate speech during the sessions, while the others began to exhibit interest in the therapist-as-object and began to communicate preverbally by touch and sound. Toe walking as a symptom disappeared when the body image became more solidly established. (From LLBA, 1973, 7 (2), Abstract No. 7304438).

824. Watters, R.G., & Watters, W.E. (1980). Decreasing self-stimulatory behavior with physical exercise in a group of autistic boys. Journal of Autism and Developmental Disorders, 10, 379-387.

Five autistic boys were observed during language training sessions following physical exercise, TV watching, or regular academic work. The lowest levels of self-stimulation followed physical exercise. The levels of correct question answering were not affected by previous activity. (From CDA, 1981, 55 (5-6), Abstract 1811).

825. Wislochi, A. (1981). Movement is their medium: Dance/movement methods in special education. Milieu Therapy, 1 (1), 49-54

Training in the basics of dance/movement can benefit severely retarded and autistic children. Spinning, leaping, and other self stimulation activities become integrated into the group circle. The techniques of participation in the group and responding to music through movement and relaxation are discussed in detail. (From ECEA, 1982, 14 (2), Abstract No. 141393).

826. Ardmore, J.K. (1977). A special kind of love. Family Health, 9, 28-31.

New horizons, a state subsizdized facility for the retarded in southern California, offers a Saturday program for autistic children (including 5 year-olds through teenagers) in which volunteers such as actress Joanne Woodward participate. The program focusses on helping children relate to one another in group situations. (From ECEA, 1977, 9 (3), Abstract No. 092088).

827. Aycock, M.C. (1974). Randy's vacation place. Exceptional Parent, 4 (2), 9-12

A mute autistic boy whose special education in seven programs enabled him to change from a hyperactive destructive child to a pensive lovable teenager gradually adjusted to placement in the Utah State Training School for retarded children during his parents' vacations. After seeking every kind of help for their child, the parents accepted his limitations and faced the uncertainty of his future. The parents found that the school personnel provided for individual needs and cooperated with universities for training of residents, and that students respected one another's behavior patterns. (From ECEA, 1974, 6 (3), Abstract No. 061984).

828. Brauner, A. (1976). Le face a face linguistique avec les enfants psychotiques (The face to face linguistic encounter with psychotic children). Le langage et l'Homme, 30, 3-15.

A short review of some problems posed by childhood autism (etiology still unknown), questions about these children's language are discussed. The specifics and interesting phenomena of autistic language are described, using examples from the Educational Treatment Centers in Saint-Mande. For example, Brauner investigates the problem of personal pronoun inversion (I-you) and explains it in a sociolinguistic manner. The analysis passes rapidly over specifics at the phonemic, lexical, morphological, and syntactic levels. Fully psychotic "neologisms" as well as puns are illustrated. "Word groups"-successions of words said in a comical manner bordering on a sort of mot d'esprit-do exist. Also noted is the use of foreign pseudolanguages-nonsense languages with a foreign accent behind which autistic children can hide and avoid communication with others. Therapeutic goals must always be held in view, and pedagogical aspects of therapy must not be negelected. (From LLBA, 1977, 11 (2), Abstract No.

7703018).

829. Chou, T. (1977). On the treatment of an autistic child at an institution for the severly mentally retarded (Japn). Japanese Journal of Child Psychiatry, 18 (1), 42-44.

Reviews the case history of a 7 year-old autistic child who was hospitalized in a large institution for the severely mentally retarded. The treatment plan stressed that he learn to play freely, be given practice in verbal communication, and have warm, physical contact with the staff. The S was given daily doses of a tranquilizer in small amounts during his 5-yr stay. This controlled his insomnia, vagrancy, and other regressive behavior patterns. Progress was made in speech communication, social contacts, and exhibited no restlessness. (From PA, 1979, 62 (2), Abstract No. 9322).

830. Cooper, N.A. (1977). Observations on a therapeutic residential setting for autistic children. Child: Care, Health and Development, 3 (6), 437-441.

Described is the Linwood Children's Center, a therapeutic milieu for children diagnosed as having early infantile autism, located in Elliot City, Maryland. Focus is on the Linwood plan of treatment which has as its goal the child's preparation for and gradual adjustment to public day schools after about 5 years therapy spent in alternating periods of residential and day care. Various procedures adopted for alleviating the problems (such as compulsive behavior and difficulties with language formation and social relationships) encountered with these children are also discussed. (From ECEA, 1979, 10 (4), Abstract No. 103942).

831. Ellis, J. (1969). The Mildred Creek Centre for the treatment of autistic children. Australian Occupational Therapy Journal, 16 (4), 19-25.

The authors describe a center for autistic children in Western Australia. Therapy is directed towards helping the child develop socially acceptable behavior and develop relationships with adults and other children. Operant conditioning is the method of treatment. Although critics maintain that operant conditioning only produces unimaginative obedience and docility, learning generalization is observed in the center. (From PA, 1971, 45, Abstract No. 10397).

832. Harper, J. (1973). Embracement and enticement: A therapeutic nursery group for autistic children. Slow Learning Child, 20 (3), 173-182.

Described are treatment procedures and outcome for 20 autistic or otherwise emotionally disturbed preschool children referred to a therapeutic nursery group over a 3-year period. It is explained that by beginning treatment as early as two years it is hoped that further autistic withdrawal can be arrested. Discussed is the therapeutic procedure which aims at involving the children in a simulated family group with a male and female therapist and providing rewarding play experiences to encourage learning and modify behavior. Placement of children in institutions, special programs, or normal schools is reported to merit the program's continuance. (From ECEA, 1974, 6 (3), Abstract No. 061616).

833. Jerome, A. (1973). Scaling the fortress walls: Some ways of working with autistic children. Acta Paedopsychiatrica, 39 (8/9/10), 263-270.

A report of work done with autistic children at Step School and Treatment Center in Chicago since its inception in Octover, 1966. Ways of approaching these most difficult to reach children are described and analyzed using considerable case material for illustrations. The methods used came under the categories: body image, relationships, materials, words, and feelings. The theoretical approaches what might be called psycho-dynamic but eclective; the work of the school is essentially characterized by what is called relationship therapy. Some of the staff problems are described and some of the problems involved in the long-term, patient, non-manipulative approach are indicated. Some of the issues dealt with are the values of stress vs. protectiveness in the child's environment, of entering into the child's fantasies and feelings vs. making reality demands and limitations upon him, and of reinforcing positive behavior through rewards or through relationships. (From LLBA, 1973, 7 (2), Abstract No. 7304390).

834. Koike, K., Kurube, T., Shigemori, M., & Fujimake, T. (1974). A survey on child psychiatric practices durign the five year period in a child guidance center. (Japn). Japanese Journal of Child Psychiatry 15 (5), 258-269.

The authors note the changes in child psychiatric practices due to a grass roots movement of parents who found their children were denied admission to health care institutions and special classes because, as autistic or severely mentally retarded chldren, they had no diagnosable physical dysfunctions. A special counseling program for mothers of autistic children was initiated, nursery schools were encouraged, and community-wide upgrading of facilities took place. The duties and activities of doctors remained a problem as they are extremely limited by the bureaucratic structure. (From PA, 1978, 6 (2), Abstract No. 12273).

835. Maier, H.W., & Campbell, S.G. (1957). Childhood psychosis: III. Routines: A pilot study of three selected routines and their impact upon the child in residential treatment. American Journal of Orthopsychiatry, 27, 701-709.

Simple daily routines are not inconsequential for autistic children. Eight autistic children aged 5-9 years old were observed and it was concluded that, before procedures to help these children with these routines can be developed, we must learn to understand the meaning of these procedures for each child. (From PA, 1959, 33, Abstract No. 1869).

836. Sanders, J. (1975). An autistic child in residential treatment. Reiss-Davis Clinic Bulletin, 12 (2), 97-106.

The author presents the case history and residential treatment of a boy 4 1/2 years old and interprets the dynamics of the child's behavior in the light of B. Bettelheim's work with autistic children. (From PA, 1976, 55 (2), Abstract No. 10516).

837. Sullivan, R.C. (1981). What does deinstitutionalization mean for our children? Journal of Autism and Developmental Disabilites, 11 (3), 347-356.

The author, president of the National Society for Autistic Children (NSAC), reviews reactions for and against NSAC's resolution on deinstitutionalization which encourages community based services for autistic indivudals. Controversy centers around the fear that it would lead to closing group homes and regular school programs in favor of integration. Supporting views contend that closing institutions would encourage community based group home development. (From ECEA, 1982, 14 (2), Abstract No. 141250).

838. Treffert, D., McAndrew, J., & Dreifuerst, P. (1973). An impaitient treatment program and outcome for 57 autistic and schizophrenic children. Journal of Autism and Childhood Schizophrenia, 3 (2), 138-153.

The evolution and structure of a treatment program in a psychiatric hospital, including a specialized sequential school and task curriculum, for autistic and schizophrenic children is presented and discussed. Therapeutic outcome for 57 patients treated in a specially designed unit over an 11-year period is reported. One-third of the children ultimately were discharged to their own homes. The rate of discharge showed a positive correlation with late onset, development of speech by age five, and completion of bowel and bladder training at the time of admission. The 33 patients of the sample with early infantile autism tended to remain chronically hospitalized compared to cases with later onset. A suggestion is made for a profile of behavioral function as a useful prognostic indicator and method for classifying populations, so that comparative treatment effectiveness in different samples can be meaningfully measured. (From LLBA, 1974, 8 (1), Abstract No. 7403153).

839. Wakabayashi, S., Ohi, M., Kaneko, T., & Tanaka, T. (1974). Actual conditions of autistic children at the Psychiatric Clinic of Nagoya University Hospital. Japanese Journal of Child Psychiatry, 15, 69-83.

The number of autistic children has been increasing remarkably in recent years. In 1971, 116 of 752 outpatient children were diagnosed as autistic. 80% between the ages of 2 and 6 and 76% of all showed speech disturbances. 78% had histories of treatment at other clinics. We concluded there were many autistic children difficult to treat who had not been adequately accepted at their previously visited institutions. (From CDA, 1975, 49 (3-4), Abstract No. 833).

840. Gabriel, H.P., & Gluck, R. (1973). Management of an autistic child undergoing open heart surgery. Pediatrics, 51 (2), 251-253.

Reported was the post-operative management schedule designed for an 8-year-old autistic male who underwent open heart surgery. The management schedule included use of morphine sulphate, administered intravenously to establish acute control, and a structured environment with minimal sedation. It was reported that the management techniques allowed doctors to avoid drugs potentially dangerous to the cardiac status, and that the S did not suffer any apparent loss of forward gains made during his previous psychiatric treatment. (From ECEA, 1973, 5 (2), Abstract No. 051201).

841. Goodwin, M.S., & Goodwin, T.C. (1969). In a dark mirror. Mental Hygiene, 53 (4), 550-563.

The authors' stated intent is to share reflections on events and some lessons learned during a combined 78 years of pediatrics practice. Interest in the learning problems of children, leading to the establishment of a remedial summer school for speech and especially reading problems, is emphasized. Also reviewed is the authors' experience with 150 learning disabled and autistic children, using the Edison Responsive Environment (a cubicle containing a multiphrase electric typewriter, projector, and programing device that could direct or respond to student). Observations on the generally positive results of their work, and on the diagnostic and treatment problems, concepts, and need for solutions to the problems of such mentally handicapped and emotionally disturbed are noted. (From ECEA, 1971, 3 (1), Abstract No. 030794).

842. Kopel, H.M. (1977). The autistic child in dental practice. ASDC Journal of Dentistry for Children, 44 (4).

Characteristics of the autistic child are reviewed, and techniques for the dental management of autistic patients are considered. The autism syndrome is discussed in terms of general background, behavioral characteristics (such as language disturbance, obsessiveness, and eating disturbances), incidence, etiology (physiologic and environmental factors), prognosis, and treatment. Suggestions for treating the child with infantile autism include having children accompany family members to the dental office so they can become accustomed to the dental environment, reinforcing positive behavior by a parent or therapist working alongside the dentist, and instituting a home rehearsal for the dental visit. (From ECEA, 1978, 10 (2), Abstract No. 101268).

B43. Schecter, M.D., & Primeaux, M. (1971). The utilization of nursing staff in a psychiatric research project. Journal of Psychiatric Nursing & Mental Health Services, 9 (1), 7-10.

Presents an experiment which sensorily deprive an autistic boy in the hope of lessening his need to react globally with autistic defenses. Nurses were to be co-research workers, therefore several questions were considered concerning nurse participation and attitude. (From PA 1972, 47 (2), Abstract No. 7286).

B44. Spurgeon, R.K. (1967). Nursing the autistic child. American Journal of Nursing, 67 (7), 1416-1419.

845. Abbassi, V., Linscheid, T., & Coleman, M. (1978). Triiodothyronine (T3) concentration and therapy in autistic children. Journal of Autism and Childhood Schizophrenia, 8 (4), 383-387.

A study of the thyroid function of thirteen 7-21 year-old patients with an autistic syndrome. The clinical and biochemical status of the thyroid was examined and they found no clinical evidence for hypothyroidism, and normal ranges of Triiodothyronine (T), thyroxine, and thyrotropin concentrations. The finding did not support the concept that the clinical response to T in autistic patients results from correction of thyroid dysfunction. (From PA, 1979, 62 (1), Abstract No. 6721).

846. Bonisch, E. (1968). Erfahrungen mit pyrithioxin bei hirngeschadigten kindern mit autistischem syndrom. Experiences with pyrithioxin treatment of brain-damaged children with autistic syndrome. Praxis der Kinderpsychologie und Kinderpsychiatrie, 17 (8), 308-310.

Treated 16 brain-damaged children, displaying autistic behaviors, with pyrithioxin. Twelve became more interested and affectionate, 5 progressed in speech development and higher dosages increased the disturbance in seven of the twelve so that a dosage reduction was necessary. (From PA, 1969, 43 (1), Abstract No. 8418).

847. Campbell, M. et al. (1978). A controlled crossover study of triiodothyronine in autistic children. Journal of Autism and Childhood Schizophrenia, 8 (4), 371-381.

The authors conduct a placebo-controlled crossover study of the behavioral effects of riiodothyronine (T30). The Ss were thirty 2.3-7.2 year-old clinically euthyroid autistic children. T3 reduced a few symptoms, but other than that, the drug did not differ from placebo. Most of the improvement seemed to be due to time. The lower IQ group did respond to T3 however individual subjects who responded could not be defined by any parameter. (From PA, 1979, 62 (1), Abstract No. 6731).

848. Campbell, M. et al. (1977). Current status of drug research and treatment with autistic children. Journal of Pediatric Psychology, 2 (4), 153-161.

Presented is a critical overview of the literature relating to drug research and treatment with autistic children, with particular emphasis on methodology and with suggestions for future research. The importance of diagnosis, classification, as well as the definition of subgroups within the etiologically heterogeneous population of autistic children is discussed in terms of response to drug treatment. (From ECEA, 1979, *11* (1), Abstract No. 110881).

849. Campbell, M., Fish, B., Shapiro, T., & Floyd, A. (1971). *Impramine in preschool autistic and schizophrenia*, *1* *(3), 267-282.*

Imipramine was studied in 10 autistic and schizophrenic children two to six years of age, whose intellectual functioning ranged from low average and mild to severe mental retardation. The purpose of this pilot study was to explore the effects of imipramine in this patient population. Imipramine showed a mixture of stimulating, tranquilizing, and disorganizing effects. Three children improved markedly, three slightly, and five became worse (nonblind evaluations). Only two were rated improved by the "blind" psychiatrist. In general, this was not a good drug for this group of children. The overall effect was infrequently therapeutic and usually outweighed by the toxic effects. Epileptogenic effect, effect on psychosis, as well as possible mechanisms of action of imipramine are discussed. It is suggested that this drug merits further exploration in the most retarded, mute, anergic children, and in those with only borderline or little psychotic symptomatology. (From LLBA, 1972, *6* (1), Abstract No. 7203035).

850. Campbell, M., et al (1978). A comparison of haloperidol and behavior therapy and their interacting in autistic children. *Journal of the American Academy of Child Psychiatry*, *17 (4)*, 640-655.

Haloperidol and behavior therapy, and the interaction of the two treatments were critically assessed with respect to their effects on symptoms and language acquistion in 40 autistic children aged 2.6 to 7.2 years. The children were randomly assigned to four treatment groups in a factorial design. The study was placebo controlled and double-blind, using multiple independent raters who assessed treatment effects under three types of rating conditions. Haloperidol was found to be significantly superior to placebo in decreasing certain symptoms, depending on the age group. The combination of the two treatments was most effective in facilitating the acquisition of imitative speech. Optimal dosage of haloperidol ranged from 0.5 to 4.0 mg/day; the most common untoward effect was excessive sedation, which was clearly a function of dosage. (From ECEA, 1979, *11* (3), Abstract

No. 113629).

851. Campbell, M., Cohen, I., Anderson, L.T. (1981). Pharmacotherapy for autistic children: A summary of research. Canadian Journal of Psychiatry, 26, 265.

852. Campbell, M., Anderson, L., Small, A., Perry, R., Green, W., & Caplan, R. (1982). The effects of haloperidol on learning and behavior in autistic children. Journal of Autism and Developmental Disorders, 12, 167-175.

Children were randomly assigned to haloperidol-placebo-haloperidol or placebo-haloperidol-placebo treatment sequences. Haloperidol was superior to placebo in reducing behavioral symptoms. In a discrimination-learning paradigm, children receiving haloperidol learned the discrimination, while those on placebo did not. (From CDA, 1983, 57 (1-2), Abstract No. 713).

853. deBuck, R.P. (1974). Antiautistic effect of flupentixol. Acta Psychiatrica Belgica, 74 (5), 520-525.

The history of the concept of autism in psychiatry is reviewed along with its use in the description of drug effects, its relationship to depression, and the effects of flupentixol on autism. (From PA, 1977, 57 (2), Abstract No. 13313).

854. Ferster, C.B., & DeMyer, M.K. (1961). Increased performances of an autistic child with prochloperizine administration. Journal of Exp. Anal. Behav., 4, 84.

Presents the case of a 10 yr-old autistic hospitalized boy who performed a matching-to-sample problem under operant conditioning techniques. Performance increased with the administration of prochlorperzine under two different fixed-ratio schedules and administered in two different doses. (From PA, 1962, 36, Abstract No. 10K84F).

855. Freedman, A.M., Elbin, E.V., & Wilson, E.A. (1962). Autistic schizophrenic children: An experiment in the use of D-lysergic acid diethylamide (LSD-25). Archives of General Psychiatry, 6 (3), 203-213.

Discusses previous experiments with LSD-25 on schizophrenics. LSD-25 was given to twelve autistic children aged 6-12. Effects included facial flush, dilation of pupils, some catatonia, some atoxia, complete loss of appetite, increased body awareness, rapid mood swings, desire for physical contact, auditory and visual hallucinations, and increased eye contact. However, the change from muteness to speech, as originally sought, did not occur. (From PA, 1963, 37, Abstract No. 3344).

856. Jorgensen, O.W. (1979). Psychopharmacological treatment of psychotic children: A survey. Acta Psychiatrica Scandinavica, 59 (2), 229-238.

An examination of psychopharmacological treatments showed that children with infantile autism might benefit from psychopharmacological medication when older (age 7 and up). Psychoactive medication might faciliate learning when it is able to inhibit psychotic preoccupations and idiosyncratic reactions. The toxic effects of imipramine require special attention. Children suffering from schizophrenia and manic-depressive psychosis are treated as adults are. (From PA, 1980, 64 (1), Abstract No. 1689).

857. Kurtis, L.B. (1966). Clinical study of the response of nortriptyline on autistic children. International Journal of Neuropsychiatry, 2 (4), 298-301.

Administered nortriptyline, an antidepressant, to a group of autistic children. Previous medications for hyperactive disturbed behavior had failed. (From PA, 1967, 41 (1), Abstract No. 639).

858. Lehman, E., Haber, J., & Lesser, S. (1957). The use of reserpine in autistic children. Journal of Nervous and Mental Disorders, 125, 351-356.

Tested the use of reserpine on nine severely autistic children. Results were: diminshed hyperactivity; less agressiveness; sleep better at night; slight emotional maturation in 4 older children; and substantial emotional maturation in 5 younger children. None of the children became normal. With the optimum dose for each child, side effects were minimal. A severe drug withdrawal occurred in 2 cases which could be relieved by resuming the drug. (From PA, 1959, 33, Abstract No. 3975).

859. Pelc, I. (1976). Supiride and psychotic relapse. (Fren). Encaphale, 2 (4), 349-361.

Psychic decompensation is related to theories of system imbalance or disequilibrium. Presents literature which supports sulpiride in treating acute dilerious states, depressive episodes, anxiety, autism, and stress. Therapeutic aspecific recompensation activity seems to be induced by sulpiride. (From PA, 1978, 59 (1), Abstract No. 1613).

860. Rhead, J.C. (1977). The use of psychedelic drugs in the treatment of severely disturbed children: A review. Journal of Psychedelic Drugs, 9 (2), 93-101.

The author reviews the therapeutic effects of LSD, its derivatives, and psilocysin on autistic schizophrenic children. The functions of the autonomic system, resulting in good gastrointestinal regulation, normalized sleep pattern and weight gain offer daily doses of 10-100 mg LSD. Reduces stereotyped motor responses and improves comprehension of speech. The drug effects were mostly transient and no chromosomal abnormalities were found after repeated use. (From PA, 1979, 61 (1), Abstract No. 4254).

861. Serrano, A.C. (1981). Haloperidol-its use in children. Journal of Clinical Psychiatry, 42 (4), 154-156.

The use of haloperidol in relieving psychotic symptoms associated with schizophrenia and autism is discussed. It has a calming effect on the children and allows them to respond better to therapy and school. The initially low dosage is gradually increased to minimize drowsiness and extrapyramidal symptoms. (From PA, 1982, 67 (1), Abstract No. 1763).

862. Simmons, J.G. et al. (1966). Modification of autistic behavior with LSD-25. American Journal of Psychiatry. 122 (1), 1201-1211.

Administered LSD to a single set of identical twins who presented a fairly homogeneous symptoms picture. LSD had a consistent effect on self-stimulating behavior, social interaction, and affect. Suggests the need for further experiments. (From PA, 1966, 40 (2), Abstract No. 8962).

863. Sogame, S. (1978). On our experience in using pentoxifylline for abnormal behavior and the autistic syndrome (Japn). Japanese Journal of Child Psychiatry, 19 (3), 137-144.

Successfully use pentoxifycline with 3-15 year-old children with abnormal behavior or autism. The drug was effective in reducing symptoms of autism, however, developmental factors in the disorder should not be ignored. (From PA, 1980, 64 (2), Abstract No. 13081).

864. Stahl, S.M. (1980). Tardive Tourette syndrome in an autistic patient after long-term neuroleptic administration. American Journal of Psychiatry, 137

(10), 1267-1269.

865. Sverd, J., et al. (1978). Effects of L-5-Hydroxytryptophan in autistic children. Journal of Autism and Childhood Schizophrenia, 81 (2), 171-180.

Behavioral effects of L-5-Hydroxytryptophan (L-5-HTP), administered in combination with carbidopa, were evaluated in three autistic children (4-8 year old) using direct behavioral observation and parent ratings. Children were assessed under each of four experimental conditions: Baseline, Placebo 1, L-5-HTP plus carbidopa, and Placebo II. During the 20-week study two children showed behavioral change that appeared to be unrelated to drug treatment. The findings did not support the hypothesis that a functional deficit in brain 5-HT underlies the autistic syndrome. (From ECEA, 1979, 11 (1), Abstract No. 110793).

866. Barthelemy, C., et al. (1981). Behavioral and biological effects of oral magnesium, vitamin B6 amd combined magnesium-vitamine B6 administration in autistic children. Magnesium-Bulletin, 150-153.

867. Lelord, G., Callaway, E., & Muh, J. (1982). Clinical and biological effects of high doses of vitamin B6 and magnesium on autistic children. Acta Vitaminol Enzymol, 4 (1-2), 27-44.

868. Lilliston, L. (1973). The megavitamin controversy. Expectations, 2 (7), 1-7.

Discussed is the controversy regarding the use of megavitamin therapy with schizophrenics, and learning disabled or autistic children. Noted is widespread lay interest in the use of additional vitamins. Hypoglycemia and allergy are also related to central nervous system disorders. Physicians are quoted who either support or do not support the use of megavitamin therapy, and research statistics are given of patients helped by the therapy. It is said that the vitamins used (usually C and B complex) are less likely to cause harm than conventional drug therapies. The possibility that hypoglycemia may be related to autistic-type illnesses is explored. It is stressed that megavitamin therapy must be under a physician's supervision. (From ECEA, 1974, 6 (1), Abstract No. 060175).

869. Rimland, B., et al. (1978). The effect of high doses of vitamin B6 on autistic children: A double-blind crossover study. American Journal of Psychiatry, 135 (4), 472-475.

Data from an earlier nonblind study was used to identify 16 autistic-type child outpatients (ages 4 to 19 years) who had apparently improved when given vitamin B6 (pyridoxine). A double-blind study was conducted in which each of these 16 children's B6 supplement was replaced during two separate experimental trial periods with either a B6 supplement or a matched placebo. Among the findings was that the children's behavior was rated as deteriorating significantly during the B6 withdrawal. (From ECEA, 1979, 10 (4), Abstract No. 103950).

870. Brown, G.E. (1978, May). Winning through determination or a business approach to interagency involvement. Prevocational training for autistic youth: Methods, materials, and interagency involvement. Paper presented at the Annual International Convention, the Council for Exceptional Children, Kansas City, Missouri.

The paper proposes some guidelines for providing prevocational training for autistic youth through cooperation with agencies and businesses. Characteristics to look for in selecting someone for negotiating with agencies are described, and factors to watch for while negotiating with agencies are discussed. (From ECEA, 1979, 11 (1), Abstract No. 110356).

871. Clark, M. (1974). Troubled children: The quest for help. Newsweek, 83 (14), 52-56, 58.

Reviewed are approaches to the treatment of emotionally disturbed (ED) children. Offered are incidence estimates (1.4 million children severely disturbed and 10 million children moderately disturbed) to support the need for increased psychiatric services. Noted is an increase of 60% in the number of children receiving treatment. It is suggested that causes of ED are predisposing physical and hereditary facors, forces within the family, and contemporary life stresses, currently seen in premature births, social mobility, and the impact of media emphasis on the abnormal and violent. Among treatment approaches described are play therapy, behavior modification, and drug therapy. Autism is explained to have characteristics such as body rocking for long periods and to be of uncertain etiology (though evidence seems to point to neurological impairment). A case study of a 5 year-old autistic boy shows positive results from use of behavior modification techniques, seen to be the most successful treatment approach currently in use. Aspects of schizophrenia considered include symptoms (such as withdrawal), etiology (probably a genetic defect coupled with neurologic impairment), psychoeducational treatment, and prognosis (better than for autism). Briefly described are symptoms, etiology, and treatment of hyperkinesis and depression (thought to be due to a disturbed parent-child relationship). Urged is greatly increased public and private support of research and treatment of ED in children. (From ECEA, 1974, 6 (3), Abstract No. 061540).

872. Haffter, C. (1973). Zur therapie des autismus (Ger). On the therapy of autism. Acta Paedopsychiatrica, 39 (8/9/10), 224-230.

Ideas concerning therapy of autistic children depend largely on etiological concepts. In recent years, however, pragmatic views have gained importance. The reason why the prescription of psychopharmacological drugs has become more widespread than before is elucidated. Psychotherapy requires special methods; psychotherapy (or case work) with the child's mother is essential. Behavior therapy and techniques developed by O'Gorman, Lutz, and Mahler are discussed. Psychomotor therapy ("reeducation de la psychomotricite") is a therapeutic advance of great importance. The results of any kind of treatment, however, are limited. (From LLBA, 1973, 7 (2), Abstract No. 7304388).

873. Hori, K., Wakabayashi, S., Kimura, A., Ohio, M., Kaneko, T., & Ishii, T. (1971). The treatment and education of autistic children in central Japan. Japanese Journal of Child Psychiatry, 12, 267-274.

In order to make clear the actual condition of treatment and education of autistic children and to contribute to the development of treatment techniques as well as legal and social measures for their welfare, we carried out an investigation by sending questionnaires to 63 institutions in 9 prefectures of central Japan which autistic children have been treated. The following are the results of this study: (1) 42 institutions returned the questionnaires. The majority of those were child guidance clinics and mental hygiene centers. (2) The total number of autistic children who visited any institution in 1969 was 396, but recently there has been a tendency for parents of autistic children to consult child guidance clinics and mental hygiene centers, too. (3) As for diagnosis of autistic children, psychiatrists or pediatricians have taken part in the diagnosis of most of the autistic children, but it has been difficult to organize a clinical diagnosis of most of the autistic children, and it has been difficult to organize a clinical team for lack of a paramedical staff. Many institutions need a marked improvement in their facilities for diagnosis and treatment, such as play-rooms and equipment. (4) The treatment of autistic children was principally through psychological therapy, though group therapy was tried successfully in some places. Parent counselling was done through the parents' association. (5) Many difficulties concerning treatment and education of autistic children were described by staff or institutions, including the problem of methodology and the lack of staff and proper facilities. (From CDA, 1972, 46 (3-4), Abstract No. 602).

874. National Society for Autistic Children. (1970, October). Facilities Available for Autistic Children. National

Society for Autistic Children, London, England

The directory provides a description of autism in terms of behavioral characteristics and available treatment facilities. Prevalence figures of autistic children throughout Great Britain are listed, and data is given on the extent of erroneous placement into subnormality hospitals. Each country in Britain is listed alphabetically followed by its estimated autistic population and available educational facilites. The majority of counties are totally without such services, and a map graphically indicates the shortage. The thirty-two facilities (schools or classes) in existence are briefly described in terms of age range, number of students and staff, and address. (From ECEA, 1971, 3 (3), Abstract No. 032454).

875. Schopler, E. & Reichler, R. (1968). Psychological referents for the treatment of autism. Paper presented at the Indiana University Medical Center, Indianapolis, Indiana.

The following four clusters of symptoms are presented in characterizing preschool children who manifest autism: failure to establish human relatedness and meaningful social attachments; impairment of motivation to become competent; disturbances of perceptual integration; and impairment of the development of cognitive functions. One of the most important impairments of autistic children is stated to be perceptual inconstancy (irregularity in the processing of sensory data by the various receptor systems). The likelihood of physiological and biochemical changes under autistic conditions of deprivation, and perceptual patterns promoted in the child as early as possible are emphasized. Recommendations for program of treatment for the autistic child including parent participation and parent education, and the goal of reducing distortions in the parent-child relationship are provided. Treatment of the preschool autistic child is also recommended to establish perceptual organization cortical control over his sensory experiences. The need for further research on the relationship between parental attitudes or child rearing practices and the existence of an autistic child is also included. (From ECEA, 1970, 2 (2), Abstract No. 005074).

876. Wenar, C., Ruttenberg, B., Dratman, M., & Wolf, E. (1967). Changing autistic behavior. Archives of General Psychiatry, 17, 26-35.

Relative therapeutic effectiveness of a large, long-established state institution offering a therapeutic program of planning activities; and a small, psychoanalytically oriented day-care unit emphasizing the emotional relation between staff and children, was evaluated using the Behavior Rating Instrument for Autistic Children in terms of behavioral change in autistic children (Kanner's criteria) over 1 year's time. The 3rd setting was the most effective in bringing about improvement in the areas of Relationship, Mastery, and Psychosexual Development. None of the milieus produced changes in Communication and Vocalization. Therapeutic activities planned with care but executed with indifference was as the milieu offering custodial care. Reasons for slow therapeutic change are discussed. (From CDA, 1970, 44 (1-2), Abstract No. 372).

877. Wing, L. (1981). Treatment of autistic children in the United Kingdom and the role of the National Society. Japanese Journal of Child and Adolescent Psychiatry, 22, 307-320.

In this talk I outline the methods of management and education of autistic children adopted in the United Kingdom and describes the role played by the British National Society in the network of services. (From CDA, 1982, 56 (5-6), Abstract No. 2301).

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878. Colman, R.S., et al. (1976). The effects of fluorescent and incandescent illumination upon repetitive behaviors in autistic children. Journal of Autism and Childhood Schizophrenia, 6 (2), 157-162.

Effects of fluorescent and incandescent illumination on repetitive behaviors were investigated with six autistic children (46 to 69 months old). Sessions with the room illuminated by fluorescent or incandescent light of equal intensity were compared. Ss spent significantly more time engaged in repetitive behavior under fluorescent light. (From ECEA, 1977, 9 (1), Abstract No. 090041).

879. Frankel, F., et al. (1978). The effect of environmental stimulation upon the stereotyped behavior of autistic children. Journal of Autism and Childhood Schizophrenia, 8 (4), 389-394.

Two groups of three autistic children, equated for chronological age (mean=49 months) but differing in IQ and performance MA, were observed for 20-minute sessions to examine the effects of environmental stimuli on stereotypic behavior. (From CIJE, 1979, Abstract No. EJ196232).

880. Graveling, R.A., & Brooke, J.D. (1978). Hormonal and cardiac repsonse of autistic children to changes in environmental stimulation. Journal of Autism and Childhood Schizophrenia, 8 (4), 441-455.

A study was made of physiological responses of five autistic children (mean age seven years six months) to variations in environmental load in order to examine the under-vs-over-arousal dichotomy. (From CIJE, 1979, Abstract No. EJ196237).

881. Hall, D.M. (1976). The influence of environmental softness on social interaction among autistic children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

Among findings of the study exploring the relationship between the presence of a "soft area" in the playroom environment of four male children (4-1/2 to 6-1/2 years old) was that when the soft area was introduced into the children's playroom non agonistic social interaction (contact and noncontact forms), close proximity, resting behaviors, and other directed vocal/ verbal behaviors were greater than during "out" conditions. (From ECEA, 1978, 10 (1), Abstract No. 100965).

882. Marchant, R., Howlin, P., Yule, Wl, & Rutter, M. (1974). Graded change in the treatment of the behavior of autistic children. Journal of Child Psychology and Psychiatry and Allied Disciplines, 15 (3), 221-227.

A method of introducing slight and gradual changes into the autistic child's environment is discussed. Two case histories are presented where this technique has been used to reduce the attachment to objects, while working on increasing sociability and attachment to people. The theoretical implications of such attachments are discussed together with more general applications of such a treatment technique. (From LLBA, 1974, 8 (2), Abstract No. 7405926).

883. Ornitz, E.M., Brown, M.B., Sorosky, A.D., Ritvo, E.R., & Dietrich, L. (1970). Environmental modification of autistic behavior. Archives of General Psychiatry, 22 (6), 560-565.

The disturbances of motility of autistic children were studied under three experimental conditions: introduction of a spinning object, human intervention, and visual-input restriction. The motility disturbances were not significantly influenced by presentation of spinning objects, and the reaction to human intervention was highly variable. Visual-input restriction (total darkness) reduced the autistic behavior in one child, and induced the substitution of tactile self-stimulation. The results indicated that the autistic motility disturbances are relatively independent of environmental influence, but may provide sensory input to the autistic child. (From LLBA, 1970, 4 (2), Abstract No. D03256).

884. Palkovitz, R.J. & Wiesenfeld, A.R. (1980). Differential autonomic responses of autistic and normal children. Journal of Autism and Developmental Disorders, 10, 347-360.

Differences in heart rate response and skin conductance were found between the groups, suggesting that the autistic subjects exhibited deficits in psychophysiological reactivity to a range of environmental stimuli. (From CDA, 1981, 55 (1-2), Abstract No. 24).

885. Prieto, A.G., & Zucker, S.H. (1978, May). The effect of modeling technique on the behavior of severely emotionally handicapped children (autism). Paper

presented at the Annual International Convention, the Council for Exceptional Children, Kansas City, Missouri.

The purpose of the investigation was to record the behavior of 12 autistic and severely disturbed children (5 to 14 years old) after exposure to a live model exhibiting either aggressive or affectual responses toward a surrogate person. During 3-minute observation periods, Ss' responses toward a Bobo doll were scored as aggressive or affective. The affectual modeling condition affected Ss' behavior to a significant degree, while the aggressive condition did not. (From ECEA, 1979, 11 (1), Abstract No. 110334).

886. Schacter, M.D., Surley, J.T., Toussieng, P.W., & Maier, W.J. (1969). Sensory isolation therapy of autistic children: A preliminary report. Journal of Pediatrics, 74, 564.

Three children with autistic defenses have been treated on an experimental basis in a milieu of sensory isolation. The first child was treated for 68 days, the second for 40 days, and the third for 74 days. After treatment there was a significant improvement in each child's ability to relate to other people and to adapt to his environment. The children have developed and maintained a desire for human contact on return to their families. (From CDA, 1970, 44(1-2), Abstract No. 368).

887. Varni, J.W., Lovaas, O.I., & Koegel, R.L. (1979). An analysis of observational learning in autistic and normal children. Journal of Abnormal Child Psychology, 7 (1), 31-43.

888. Zentall, S.S. (1979). Effects of environmental stimulation on behavior as a function of type of behavior disorder. Behavioral Disorders, 5 (1), 19-29.

The article discusses the effects of environmental stimulation on behavior as a function of the type of behavior disorder, focusing on autistic children; anxious, withdrawn, or immature children; hyperactive children; aggressive children; and normal children. Behavioral and learning characteristics of these children, as well as treatment findings and implications, are reviewed and related to a theoretical model of optimal stimulation. A heightened readiness to approach environmental stimulation (seen in hyperactive and aggressive children) or to avoid it (seen in autistic, anxious, or withdrawn children), appears to directly control the amount of stimulus input, moderate the effectiveness of behavioral consequences, and facilitate the development of different attentional, perceptual-motor, and cognitive skills in these two general groups of children. (From ECEA, 1980, 12 (3), Abstract No. 122594).

889. Ackerman, A., & Dirr, P.J. (1974). Behavior Modification for children with autistic tendencies: Study Guide for a videotaped series. New York State Education Department, Albany, New York.

The study guide accompanies a series of 18 videotaped programs designed to provide teachers, teacher aides and parents with an understanding of children with autistic tendencies and of how behavior modification techniques might be used to train such children. Synopses of each program and each program segment and a few questions intended to stimulate the reader's consideration of the topics are presented for demonstrations of autistic behaviors (such as echolalia and perservation), of techniques (such as use of positive reinforcers), and for three case studies. (From ECEA, 1975, 7 (3), Abstract No. 072240).

890. Ando, H. (1977). Training autistic children to urinate in the toilet through operant conditioning techniques. Journal of Autism and Childhood Schizophrenia, 7 (2), 151-163.

Five profoundly retarded males (6 to 9 years old) with clinical manifestations of autism were used to evaluate the use of operant conditioning techniques to toilet train children in an autism ward of a hospital for developmentally disturbed children. Records of urination behavior of these Ss were kept during a baseline period and throughout the application procedures. Appropriate urination behavior was immediately followed by positive reinforcers, such as candy, verbal praise, and physical affection. Inappropriate urination behavior was immediately followed by negative reinforcers, verbal as well as physical. Results showed that operant conditioning techniques can be used to change the urination behavior of profoundly retarded autistic children even where other methods have failed. (From ECEA,1978, 10 (1), Abstract No. 100338).

891. Arora, M. & Srinivasa, M.R. (1976). Behavior therapy with children: I. General considerations. Child Psychiatry Quarterly, 9 (1), 1-13.

892. Azrin, N.H., Kaplan, S.J., & Foxx, R.M. (1973). Autism reversal: Eliminating stereotyped self-stimulation of retarded individuals. American Journal of Mental Deficiency, 78 (3), 241-248.

Stereotyped self-stimulation such as rocking, weaving of the head back and forth, etc., by retarded persons is a common problem for which no practical treatment exists. Based on theory that this autistic behavior is caused by a deficit of environmental reinforcement for outward-directed activities, a reinforcement program was devised for use with retarded adults. This reinforcement program reduced self-stimulation by about two-thirds. Further reduction was attempted using an overcorrection procedure. The overcorrection procedure, when combined with the reinforcement program, reduced the self-stimulation by 95% after two days and virtually eliminated the problem thereafter. The combined procedure was maintained as a feasible ongoing ward program. (From LLBA, 1974, 8 (1), Abstract No. 7403098).

893. Barthelemy-Gault, C. & Larmande, C. (1977). Behavioral modification psychotherapies in the autistic child.(Fren) Acta Psychiatrica Belgica, 77 (5), 549-586.

Presents data gathered from observations of 3 children receiving behavioral modification psychotherapy between 1976 and 1977. Practical and theoretical considerations of a new behaviorally-oriented therapeutic project are discussed. (From PA, 1980, 64 (2), Abstract No. 10720).

894. Bitgood, S.C., & Crowe, M.J., & Suarez, Y., & Peters, R.D. (1980). Immobilization: Effects and side effects on stereotyped behavior in children. Behavior Modification, 4 (2), 187-208.

Describes the use of brief immobilization in reducing self-stimulatory responses of 4 retarded/autistic children aged 6-13 years. Results indicated that in three cases, generalized suppression (reducing target and similar responses) was observed. (From PA, 1981, 65 (2), Abstract No. 10897).

895. Brawley, E.R., Harris, R.R., Allen, K.E., Fleming, R.S., & Peterson, R.F. (1969). Behavior modification of an autistic child. Behavior Science, 14 (2), 87-97.

Autistic child was observed while in a hospital ward. Observation revealed that the clinical staff gave considerably more attention to his bizarre, inappropriate behavior than to acceptable responses. Subsequently these two classes of behavior were observed and recorded by independent observers whose reliability averaged 85%. Next the child was given social and primary reinforcement for appropriate behaviors which included compliance to requests, comprehensible verbalizations, use of play materials, and the learning of academic skills. Self-hitting, junk verbalizations, and tantrums did not receive reinforcement. In order to demonstrate the role of contingent reinforcement, the contingencies were reversed for a four-day period. Following the initial reinforcement procedures, responses such as comprehensible verbalizations climbed from 2% to 46% while withdrawn responses and junk verbalizations disappeared. When the reinforcement contingencies were reversed, some appropriate responses dropped 50% and inappropriate responses increased. When the original contingencies were reinstituted, the behaviors returned to previous treatment levels. (From LLBA, 1969, 3 (2), Abstract No. C04249).

896. Breger, L. (1965). Comments on "Building social behavior in autistic children by use of electric shock". Journal of Experimental Research in Personality, 1 (2), 110-113.

Critical analysis of the use of autistic children as subjects and the theoretical problem of transfer of behavior from specific learning experiences. First, it is argued that it is not possible to generalize findings of studies which tend to use specific and highly unique autistic children. Second, it is suggested that studies do not effectively demonstrate transfer of behavior from S-R approaches. (From PA, 1966, 40 (1), Abstract No. 3226).

897. Brooks, B., Morrow, J.E., & Gray, W.F. (1968). Reduction of autistic gaze aversion by reinforcement of visual attention responses. Journal of Special Education, 2 (3), 307-309.

Discusses the results of reinforcement procedures in controlling visual attention in a 19-year-old autistic deaf female. Rate of visual attention was increased on a continuous reinforcement schedule, maintained on a variable schedule, lowered on extinction, & reinstated upon reintroduction. (From PA, 1969, 43 (2), Abstract No. 10120).

898. Brown, R.A., Pace, Z.S., & Becker, W.C. (1969). Treatment of extreme negativism and autistic behavior in a six year old boy. Exceptional Children, 36 (2), 115-122.

Most reports on the use of behavior modification techniques in treatment have focused on the manipulation of specific symptoms but have seldom discussed the total treatment program. This a report of individual treatment of a boy as part of a three part program designed to help emotionally disturbed youngsters develop the behaviors and skills necessary to function in a regular school program. The project is being conducted by the Institute for Juvenile Research (IJR) in Chicago, as an alternative to residential care for children who are so severely disturbed that they can no longer be retained in the regular school situations. The IJR program includes a day school, a parent's group, and individual treatment. This study focuses on individual sessions with one of the children and the relationship of these sessions to the school and home situation. (From LLBA, 1970, 4 (1), Abstract No. D00749).

899. Browning, R.M. (1971). Treatment effects of a total behavior modification program for autistic children. Behavior Research and Therapy, 9 (4), 319-324.

Five autistic children were studied intensively to devise effective treatment procedures with the goal of eventual return to their homes. An experimental-clinical approach was used to design behavior modification programs specifically for each child. All children made varying degrees of progress, but their learning deficits continued to interfere with learning all new responses, necessitating continuation of a structured home or institutional existence to maintain the treatment gains. Retardation remained a characteristic of all children, retrieval of previously decelerated referral behaviors was problematic at date of discharge, and response acquisition did not appreciably facilitate learning of more complex behavior on the same response hierarchy. (From LLBA, 1972, 6 (1), Abstract No. 7203069).

900. Carlsson, B. (1971). Operant betingning som behandlingsmetod vid autism (Swed). Operant conditioning for the treatment method of autism. Nordik Psykologi, 23 (2), 200-210.

Although opposing opinions about behavior therapy exist, many positive results from "operating technique" therapies have been reported in the literature lately. With rather grave psychotic cases, it is often necessary to treat patients without their consent, because the symptoms are often of a destructive character (either directed towards the patient himself or toward other persons). The course of the treatment of three preschool Ss diagnosed as autistic is reported. In the diagnosis, it was chosen descriptively to delimit what is called an autistic syndrome. Hypothetical first causes of psychological nature were not taken into consideration. The therapy was directed towards the symptoms, first and foremost the linguistic disturbances, these being perhaps the most characteristic. A number of investigations indicate that improved language functions will result in the reduction or elimination of other types of nonfunctional behavior. This observation was corroborated during the treatment of these three Ss. (From LLBA, 1972, 6 (2), Abstract No. 7204901).

901. Chance, P. (1974). "After you hit a child, you can't just get up and leave him: You are hooked to that kid": A conversation with Ivar Lovaas about self-mutilating children and how their parents make it worse. Psychology Today, 7 (8), 76-84.

Theoretical overview of I. Lovaas' work with autistic children. Reviews the advantages and disadvantages of this behavioral approach. (From PA, 1974, 52 (1), Abstract No. 1501).

902. Clancy, H. & Rendle-Short, J. (1968). Infantile autism: A problem of communication. Australian Occupational Therapy Journal, 15 (3), 7-20.

Presents the results of a seven-year experimental treatment program with 11 autistic children. Treatment emphasized early remediation of communicative abilities, and it is concluded that treatment in the first three years of life will prevent the development of secondary symptoms. (From PA, 1971, 45, Abstract No. 10395).

903. Colletti, G. & Harris, S.L. (1977). Behavior modification in the home: Siblings as behavior modifiers, parents as observers. Journal of Abnormal Child Psychology, 5 (1), 321-330.

Studied with the 10 year old sister of a 9 year old girl diagnosed as autistic, and the 11 and 12 year old brothers of a 9 year old boy diagnosed as severly neurologically impaired was the effectiveness of siblings as behavior change agents for their behaviorally disturbed brothers and sisters, and the ability of parents to be reliable observers of their children's performance. Results indicated that siblings were able to modify S's behaviors, and that parents received high reliability ratings when compared to outside observers. (From ECEA, 1978, 9 (4), Abstract No. 092630).

904. Colligan, R.C., & Bellamy, C.M. (1968). Effects of a two year treatment program for a young autistic child. Psychotherapy; Theory, Research & Practice, 5 (4), 214-219.

Reports on the application of a modified operant behavior-modification technique, playroom therapy, and milieu therapy, in the treatment of a three-year-old female displaying autistic symptoms. In the first year, gains in speech and language were observed, and in the second year, gains in IQ were documented following the use of Santostefano's Training Attention and Concentration program and Bereiter-Englemann's language-training techniques. (From PA, 1969, 43 (1), Abstract No. 5497).

905. Cowan, P.A., Hoddinott, B.A., & Wright, B.A. (1965). Compliance and resistance in the conditioning of autistic children: An exploratory study. Child Development 36, 913-923.

Twelve autistic children between 4 and 9 years of age were asked to choose red objects and square objects from a stimulus array. Ten Ss made correct choices significantly less often than chance, that is, they avoided emitting correct responses. Ss were given 60 conditioning trials in which choices of either red or square objects were reinforced. Those who attained either concept subsequently performed perfectly when asked to produce red and square concepts; the other Ss continued giving fewer-than-chance correct responses. Thus, conditioning trials elicited in some Ss an increased tendency to comply with the experimenter's instructions. The results suggest that more attention should be paid to the distinction between responses that they are unwilling to make. (From CDA, 1966, 40 (3-4), Abstract No. 350).

906. Craighead, W. Edward; O'Leary, K. Daniel, & Allen, Jon S. (1973). Teaching and generalization of instruction-following in an "autistic" child. Journal of Behavior Therapy and Experimental Psychiatry, 4 (2), 171-176.

A four year old boy, diagnosed as "autistic," very seldom followed instructions. A program, utilizing operant reinforcement procedures designed to increase instruction-following, succeeded dramatically and the behavior generalized across people and novel instructions, and persisted when the primary treatment intervention was withdrawn. (From LLBA, 1973, 7 (2), Abstract No. 7305907).

907. Davids, A. & Berenson, J.K. (1977). Integration of a behavior modification program into a traditionally oriented residential treatment center for children. Journal of Autism and Childhood Schizophrenia, 7 (3), 269-285.

The historical background and early contributions of the Emma Pendelton Bradley Hospital, the first psychiatric hospital for children in the United States, are described, with emphasis on the incorporation of the treatment modality of behavior modification into this traditional psychoanalytically oriented program. Changes that have occcurred in the course of developing the behavior modification program are discussed to show some of the positive and negative aspects of introducing such a radical change into a traditional setting. Case studies are included to reveal both the failures and the successes that have been encountered in treating psychotic and autistic children with either psychotherapy or behavior therapy. Description of the current status of the program is noted to show that treatment is comprehensive, including psychodynamic and behavioral approaches, medication when warranted, and special education. The role of parents in the program is also considered. (From ECEA, 1978, 10 (2), Abstract No. 101575).

908. Davidson-Gooch, L. (1980). Autism reversal: A method for reducing aggressive-disruptive behavior. Behavior Therapist, 3 (2), 21-23.

Utilized the autism reversal procedure (consisting of a forced-arm exercies) on a retarded male aged 17 years (M.A. 2.7 years) demonstrating aggressive-disruptive behavior. Results showed a reduction of maladaptive behavior and implications of the superiority of the autism reversal technique are suggested. (From PA, 1981, 66 (1), Abstract No. 4044).

909. Davison, G.C. (1964). A social learning programme with an autistic child. Behavior Research And Therapy, 2, 149-159.

910. Dickie, R.F., & Finegan, S. (1980). The use of a common overcorrection procedure in eliminating topographically and functional dissimilar "autistic" behaviors in several children. Education and Treatment of Children, 3 (1), 21-31.

A common overcorrection procedure (running in place) was applied contingent on the occurrence of topographially and functionally dissimilar behaviors in three children (10 to 13 years old) diagnosed as autistic. A technique involving brief aperiodic application of the overcorrection contingency was employed. Response suppression occurred for all behaviors when treated on a staggered basis using a multiple baseline design across children. (From ECEA, 1980, 12 (4), Abstract No. 124451).

911. Dullaart-Pruyser, E. (1977). Operant conditioning with autistic children: A survey of the literature. (Dutch). Nederlands Tijdschrift voor de Psychologie en haar Grensgebieden, 32 (5), 307-322.

Reviews the results of 35 reports utilizing a variety of operant conditioning techniques (aversive therapy, chaining, contingency, management, direct support, extinction, fading, modeling, positive physical contact, prompting, punishment, shaping, supportive management, time-out from positive reinforcement, and token economy). Results appear to indicate that chaining, direct support, extinction, punishment, shaping, and token economy, were most effective in alleviating undesirable behavior. (From PA, 1979, 61, (1), Abstract No. 4175).

912. Egel, A.L. (1980). The effects of constant vs. varied reinforcer presentation on responding by autistic children. Journal of Experimental Child Psychology, 30, 455-463.

The results demonstrated that the children in this investigation made more and faster responses when the reinforcer presentation was varied as opposed to constant. (From CDA, 1981, 55 (5-6), Abstract No. 1747).

913. Ferinden W.E., Jr., & Cooper, J.M. (1973). Successful treatment of childhood autism. Language, Speech, and Hearing Services in Schools, 4 (3), 127-131.

A case report of a nonverbal kindergarten boy whose "disturbed" behavior was modified through operant conditioning procedures in a regular classroom setting. After the employment of principles and techniques of behavioral science, academic and social skills appeared in the boy. His speech approached relevance 95% of the time at the end of the instructional period. He responded to yes and no with understanding and learned many of the skills expected in a normal kindergartener. He was able to attend to work tasks for 45 minutes at a time. Discussion of the reinforcement schedule implemented is presented. (From LLBA, 1974, 8 (1), Abstract No. 7401759).

914. Ferrari, M. & Harris, S.L. (1981). The limits and motivating potential of sensory stimuli as reinforcers for autistic children. Journal of Applied Behavior Analysis, 14 (3), 339-343.

Reports the results of a study investigating the effectiveness of three types of sensory stimulation (vibration, music, and strobe light), food, and social reinforcers, on four autistic males age 7-9 years. Results indicated that sensory stimuli maintained high rates of responding of six barpressing responses and were comparable to the motivating potentials of traditional food and social reinforcers. (From PA, 1982, 67 (3), Abstract No. 61780).

915. Ferrari, M. (1980). Effects of praise and reprimand on the topography and probability of occurence of stereotypies in autistic children. Psychological Reports, 46, 519-522.

Ratings of the topography of autistic stereotypies were recorded following the administration of praise or reprimand for performance on each trial and following reprimands. Stereotypies followed reprimanded trials more often than praised trials. No differences were found in overall topographic change as a function of praise or reprimand. (From CDA, 1981, 55 (1-2), Abstract No. 411).

916. Ferster, C.B., & DeMyer, M.K. (1962). A method for the experimental analysis of the behavior of autistic children. American Journal of Orthopsychiatry, 32, 89-98.

Behavior of severely disturbed autistic children was brought under the control of an arbitrary environment by techniques of operant reinforcement. It was possible to sustain substantial amounts of behavior, as well as to widen aspects of the children's behavioral repertoire. The experimental methods suggest experimental techniques for controlling the current repertoire of the child, as well as means for developing new behaviors by which the child may deal with the environment. (From CDA, 1963, 37 (34), Abstract No. 455).

917. Ferster, C.B. (1961). Positive Reinforcement and behavioral defecits of autistic children. Child Development, 32, 437-456.

An analysis of how the basic variables governing a child's behavior suggests specific conditions under which these variables may lead to the kind of performance deficits seen in the autistic child. The analysis emphasizes the child's performance as it is changed by, and affected in, social and nonsocial environment. The analysis of the autistic child's behavioral deficits comes from the general principles of behavior, derived from a variety of species, which describes the kinds of factors that alter the frequency of an arbitrary act. The general principles of behavior applied to the specific situations, presumably present during the child's developmental period, leads to hypotheses as to specific factors in the autistic child's home life which could produce the severe changes in the frequency as well as in the form of its behavior. (From CDA, 1961, 35 (5-6), Abstract No. 717).

918. Ferster, C.B., & DeMyer, M.K. (1961). The development of performances in autistic children in an automatically controlled environment. Journal of Chronic Disorders, 13, 312-345.

Recorded performances of two autistic children in an experimental procedure utilizing vending machines delivering food and candy, a trained pigeon, a phonograph, a color kaleidoscope, and a pinball machine. Devices were operated by keys or coins. Results indicated that performances could be sustained on the coin key for experimental sessions. (From PA, 1962, 36, Abstract No. 1FF12F).

919. Foxx, R.M. (1977). Attention training: The use of overcorrection avoidance to increase the eye contact of autistic and retarded children. Journal of Applied Behavior Analysis, 10 (3), 489-499.

Reports the results of a study comparing functional movement training, food reinforcement, and praise treatment approaches in developing eye contact of three autistic and retarded children (aged 6-8 years). Findings indicated that functional movement training avoidance combined with edibles and praise appeared to be the most effective method of teaching eye contact. (From PA, 1978, *60* (2), Abstract No. 7878).

920. Foxx, R.M., & Azrin, N.H. (1973). The elimination of autistic self-stimulatory behavior by overcorrection. *Journal of Applied Behavioral Analysis*, *6* (1), 1-14.

Examined was the effectiveness of overcorrection procedures in eliminating the self stimulatory behaviors of three mentally retarded children and one autistic child. The overcorrection procedures consisted of such activities as brushing the child's teeth and gums with a toothbrush that had been soaked in oral antiseptic and training students in specific functional movements. The procedures were applied in a behavior daycare program to the Ss who exhibited object-mouthing, hand-mouthing, head-weaving, and hand-clapping behaviors. For some behaviors, comparisons were made between the overcorrection procedure and several alternative procedures, including physical punishment by a slap, reinforcement for behaviors that were not self stimulatory, a distasteful solution painted on the hand of a hand-mouther, and free reinforcement. Overcorrection procedures eliminated the self stimulatory behaviors of all four children in tutorial sessions and during the entire school day, and were more effective than the alternative procedures in eliminating self stimulation. (From ECEA, 1973, *5* (2), Abstract No. 051469).

921. Frankel, F. et al. (1976). Effects of frequency of photic stimulation upon autistic and retarded children. *American Journal of Mental Deficiency*, *81* (1), 32-40.

Stereotyped behavior was tested with six autistic children and five retarded children matched for mental age. The Ss were trained to pull a lever to obtain photic stimulation of different frequencies. Results were the following: response rates of autistic children were related to frequency of stimulation; duration of stereotypies did not differ between groups; during the extinction session, two autistic Ss ceased responding but one retarded S did not; and noncontingent photic stimulation suppressed a food motivated operant in one autistic S. Results indicated evidence for frequency dependent properties of repetitive visual feedback in autistic Ss. In addition, support was given to the position that performance deficits in autistic children correlating with the occurrence of stereotypies result from competition of different sources of reinforcement. (From ECEA, 1977, *8* (4), Abstract No. 082723).

922. Frankel, F. et al. (1977). Effects of social deprivation upon operant behavior in mentally retarded and autistic children. *Journal of Pediatric Psychology*, *2* (4), 172-175.

Repeated observations were made of the reinforcer effectiveness of voice recordings of the judged preferred teacher of 16 retarded and autistic preschool children. The observations were conducted under typical classroom conditions or after more than 24 hours in which each child was deprived of the attention of the judged preferred teacher. Results demonstrated that deprivation increased the rate of response that played back voice recordings, the response rate increase came from sources other than the information value of social reinforcement, novelty, or anxiety, and autistic and retarded children showed equivalent effects of the experimental manipulations. (From ECEA, 1979, *11* (1), Abstract No. 110884).

923. Freeman, B.J., Somerset, T., & Ritvo, E.R. (1976). Effect of duration of time out in suppressing disruptive behavior of a severely autistic child. *Psychological Reports*, *38*, 124-126.

Time out from positive reinforcement was examined over a long period of time in a severely autistic child. Behavior was best suppressed with a variable 15-minute duration. (From CDA, 1977, *51* (5-6), Abstract No. 1128).

924. Freeman, B.J., Moss, D., Somerset, T., & Ritvo, E.R. (1977). Thumbsucking in an autistic child overcome by overcorrection. *Journal of Behavior Therapy & Experimental Psychiatry*, *8* (2), 211-22.

Discusses the utilization of an overcorrection procedure (involving holding the child's hands down to his side for 30 seconds on each occurrence of thumbsucking) to suppress thumbsucking in a two-year-old autistic male. The procedure successfully reduced thumbsucking from a rate of 200 instances to 0 to over 13 two-hour sessions. (From PA, 1978, *59* (2), Abstract No. 12737).

925. Freeman, B.J., et al. (1976). The effects of response contingent vestibular stimulation on the behavior of autistic and retarded children. *Journal of Autism and Childhood Schizophrenia*, *6* (4), 353-358.

A study involving 13 autistic and 7 retarded children was conducted to examine the reinforcing effects of repetitive vestibular stimulation. While both autistic and retarded children would push a button for vestibular stimulation, frequency of stimulation was an important parameter for autistics but not for retardates. Results were interpreted as evidence for central rather than peripheral locus of control of motility disturbances in autistic children. (From ECEA, 1977, 9 (3), Abstract No. 091932).

926. Gambrill, E.D. (1977). Severe behavior disturbances. In E.G. Gambrill (Ed.). Behavior Modification: Handbook of Assessment, Intervention and Evaluation. San Francisco: Jossey-Bass, Inc.

Chapter 19 of the book presents an overview of the use of behavioral methods with such severe behavior disturbances as childhood autism (altering self destructive and self stimulatory behaviors, developing language, increasing self care skills and social interaction, training parents), mental retardation (decreasing aggressive and disruptive behaviors, decreasing self stimulatory behavior, increasing self care skills), psychosis (increasing appropriate speech, decreasing hallucinations and delusions, developing problem solving skills, increasing social skills), and severe obsessive-compulsive behavior (preventing certain responses, providing social reinforcement, employing covert modeling). The chapter also focuses on programs that have been carried out in the natural environment to deal with these problems. (From ECEA, 1979, 11 (1), Abstract No. 111230).

927. Garziano, A.M. (1970). A group treatment approach to multiple problem behaviors of autistic children. Exceptional Children, 36 (10), 765-770.

Most reviews of behavior therapy with children have described research attempts with one or two children as subjects and have focused on discrete or single problem behavior. This rapidly developing field lacks reports of overall successes with children who present multiple problem behaviors, while multiple, not single, problem behaviors are typically referred to the clinics. A group behavior therapy approach involving social-environmental programming which takes advantage of the social contingencies readily occurring in groups is another important area lacking investigation. Attempts were begun in 1963 to approach both areas, i.e., to modify the multiple deficit and surplus behavior of severely psychotic children by using a group behavior therapy approach in which the social environment was programmed. (From LLBA, 1970, 42, Abstract No. D04251).

928. Gault, C. et al. (1976). Advantages of behavior therapy

with serious forms of childhood autism. (French). Perspective Psychiatriques, 58, 282-284.

A study reporting the application of behavioral techniques by a therapeutic team and parents of an 8-yr-old autistic boy. Following 90 sessions of behavior therapy, improvement in sensorimotor functioning (grasping and seizing), in the ability to keep 2 objects in mind while obtaining a third, and the ability to perceive a complete structure, was documented. (From PA, 1977, 58 (1), Abstract No. 3836).

929. Glenn, S.S., Whaley, D.L., Ward, R., & Buck, R.W. (1980). Obtaining color discriminations in developmentally disabled children by disrupting response stereotyping. Behavior Research of Severe Developmental Disabilities, 1 (3), 175-189.

The results of four experiments examining response stereotyping as a form of stimulus overselectivity are reported. Three training techniques were examined in three nonberbal children. Findings indicated that children whose parents displayed maladaptive communication problems developed schizophrenia like disorders later in life, while adolescents of parents who had lower levels of maladaptive communication patterns had healthier outcomes. (From PA, 1981, 66 (2), Abstract No. 8149).

930. Goldberg, S. & Imber, S.C. (1979, April). The effects of behavioral consultation techniques on aggressive and non-compliant behaviors of an autistic child. Paper presented at the Annual International Convention, the Council for Exceptional Children, Dallas, Texas.

The effects of behavioral consultation (defined by J. Bergan as the application of behavioral theory and research in consultation services) techniques were applied to the teacher of an aggressive, noncompliant, autistic male child (aged 6 years). The consultant utilized Bergan's four stages of problem solving: problem identification, problem analysis, plan implementation, and problem evaluation, in order to guide the teacher in modifying the S's behavior. During the problem identification, problem analysis, plan implementation, and problem evaluation interviews, the consultant was guided by Bergan's four message classification units: source (consultant or consultee), content, process, and control. In the plan implementation interview the objectives (as delineated by Bergan) were skill development, implementation monitoring, and revision. Techniques, such as time out and verbal and edible reinforcement, were chosen to modify the S's unacceptable behavior. Results of the training techniques indicated that there was a significant decrease in aggression, and a gradual decrease in noncompliance. (From ECEA, 1980, *11* (4), Abstract, No. 115304).

931. Gottwald, P., & Redlin, W. (1972). Behavior therapy with mentally handicapped children, basic concepts, results and problems of behavior therapy with retarded, autistic and schizophrenic children. (Germ). *Zeitschrift fur Klinsche Psycholo.*, *2* (1), 93-149.

Reviews the literature relating to operant conditioning methods in developing socialization, language, and self-help skills, and alleviating disruptive, hostile, self-stimulating behavior, self-injurious tendencies, social withdrawal, echolalia in mentally retarded, autistic, and schizophrenic children. The utilization of parents and teachers as therapists in natural settings is also discussed. (From PA, 1974, *51* (2), Abstract No. 7691).

932. Harris, S.L., & Wolchik, S.A. (1979). Suppression of self-stimulation: Three alternative strategies. *Journal of Applied Behavior Analysis*, *12* (2), 185-198.

Four boys (5 to 7 years old) with autistic like behavior were treated for self stimulatory behavior with three different treatment procedures - time out, differential reinforcement of other behavior (DRO), and overcorrection. All four boys showed a rapid response to the overcorrection procedure. Three boys demonstrated some evidence of decrement in responding with time out. During the DRO procedure, one showed a modest decrease, two showed no change, but one exhibited a consistent increase in responding under this condition. A multiple baseline applied to one of the Ss failed to reveal any generalization of suppression from one setting to another. A strong but not perfect relationship was found between a frequency and a duration measure of self stimulation. There was some evidence of negative side effects for one boy during overcorrection and for another during time out. None of these negative side effects was enduring. There was also some indirect evidence that overcorrection facilitated appropriate play. (From ECEA, 1980, *12* (2), Abstract No. 121304).

933. Hawkins, A.H. (1978). The effects of instruction and behavior modification on the gross motor recreational behavior of autistic-like children. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI, 48106.

A prompt and praise condition was more effective than two other conditions (praise anything and token conditions) in encouraging participation in trained leisure activities for three autistic-like children. (From ECEA, 1980, 11 (4), Abstract No. 115490).

934. Helm, D.P. (1981). Behavior modification and intensive interpersonal involvement in the treatment of an autistic child. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

Among findings of the longitudinal case study of an autistic child from the age of 10 to 13 years were that through treatment the S made significant gains in socioemotional functioning, that receptive language improved from an equivalent 3 year old functioning level to 6-1/2 year old functioning level, and that the degree of linguistic or cognitive change varied markedly depending on the particular instrument or subtest used. (From ECEA, 1982, 14 (2), Abstract No. 141833).

935. Hingtgen, J., & Coulter, S. (1967). Auditory control of operant behavior in mute autistic children. Perceptual and Motor Skills, 25, 561-565.

Ss, autistic children (N=4), were presented with 5 pairs of auditory stimuli. During the presentation of one stimulus the child was able to obtain food on a previously established fixed-ratio schedule of lever pressing, while during the presentation of the 2nd stimulus an extinction schedule was in effect. A new set of stimuli was introduced when the preceding set was learned. Three of the 4 Ss learned to discriminate 4 pairs of auditory stimuli within an average of 36 daily 40-minute sessions. Data indicate that some mute autistic children are capable of learning simple auditory-motor associations. (From CDA, 1968, 42 (3-4), Abstract No. 518).

936. Hingten, J.N., Coulter, S.K., & Churchill, D.W. (1967). Intensive reinforcement of imitative behavior in mute autistic children. Archives of General Psychiatry, 17 (1), 46-43.

Two mute autistic children who had not shown any significant improvement following various types of traditionally oriented therapy were isolated in a room, individually, for 21 days. During approximately 6 hrs of daily training sessions, 2 to 6 adults used food, water, and release from physical restraint to reinforce 3 types of imitative responses: (1) general use of body, including individual and combinational uses of head, arms, fingers, etc; (2) use of objects such as buttons, scissors, toys, etc; and (3) vocalizations. Over 200 responses of the first 2 types and an imitative vocabulary of 17 to 18 sounds and 11 to 18 words or approximations of words were established by the end of the 21-day period. Since an average of over 25% of the responses of all 3 types were imitated upon the initial or second presentation of the model (without the adult helping the child go through the response), there was some evidence that imitation was generalizing to new responses. Five months following the initial training period the children had progressed beyond the alphabet using a visual or auditory cue, cutting out figures with scissors, making various pictures and objects, etc. The results of this study suggest that a short-term intensive imitative training period might be effective in establishing a large number of behaviors which can be used by parents, teachers, and others as the foundation for working toward a broader and more spontaneous behavioral repertoire in the autistic child. (From LLBA, 1968, 2 (1), p. 290).

937. Hobbs, S.A., 7 Goswick, R.A. (1977). Behavioral treatment of self-stimulation: An examination of alternatives to physical punishment. Journal of Clinical Child Psychiatry, 6 (1), 20-23.

The article reviews the literature on the use of behavioral procedures other than physical punishment in the treatment of noninjurious self stimulation in retarded and autistic individuals. Evidence is presented which suggests that the combination of positive reinforcement for functional responses, and deceleration techniques such as extinction or overcorrection, may provide an effective means of reducing self stimulation and teaching appropriate behaviors. (From ECEA, 1979, 11 (2), Abstract No. 112870).

938. Howlin, P., Marchant, R., Rutter, M. Berger, M. Hersov, L., & Yule, W. (1973). A home-based approach to the treatment of autistic children. Journal of Autism and Childhood Schizophrenia, 3 (4), 308-336.

A report of an evaluation of the developmental/behavioral approach to the treatment of autistic children, with particular reference to the advantages of using parents as therapists and of basing treatment in the home rather than the clinic. The adequate assessment of the child and family is emphasized as is the functional analysis of behavior so that treatment techniques may be adapted to the individual needs of the child and to the particular family circumstances. Treatment is systematically monitored throughout. Attention is paid both to aiding more normal social and linguistic development and to the removal of maladaptive behaviors using a range of behavioral and operant techniques, which are illustrated by nine examples from the 12 experimental cases assessed.

Highlights of the study are evaluated and discussed. (From LLBA, 1974, 8 (2), Abstract No. 74045030).

939. Husted, J.R., Hall, P., & Agin, B. (1971). The effectiveness of time-out in reducing maladaptive behavior of autistic and retarded children. The Journal of Psychology, 79 (2), 189-196.

Four profoundly retarded girls, three of whom displayed obvious autistic behavior, underwent 14 months of intensive behavioral modification therapy with time-out from positive reinforcement being the basic procedure. The three types of behavior to be reduced were aggressiveness towards self, aggressiveness towards others, and running from their living unit. the frequency of these behavioral patterns was reduced by more than 98% in all four girls during the therapy period. Although the experimenters were able to sustain these behavioral patterns eliminating the inappropriate behavior in the therapy session itself to a variable interval reinforcement schedule of 360-1, very little of this behavior generalized from therapy to everyday patterns of the children's behavior. Four procedures to facilitate generalization were all unsuccessful. It was found, however, that time-out did seem to sensitize the children to the response-stimulus sequence that facilitated acquisition of more basic self-help behaviors. Time-out programs with this type of child are not economical in terms of permanent behavior change and the amount of staff time involved in training. It is recommended that time-out procedures be used as a part of a comprehensive self-help development program or after the most basic self-help skills have already been developed. (From LLBA, 1971, 79 (2), Abstract No. 7201276).

940. Ives, C., Harris, S., & Wolchik, S.A. (1978). Food refusal in autistic type child treated by a multicomponent forced feeding procedure. Journal of Behavior Therapy and Experimental Psychiatry, 9, 61-64.

A multicomponent forced feeding procedure involving shaping, negative reinforcement, and the use of preferred foods for postitive reinforcement was used to teach a 5-year-old autistic boy to accept a wide variety of foods. (From CDA, 1979, 53 (1-2), Abstract No. 379).

941. Jensen, G.D., 7 Womack, M.G. (1967). Operant conditioning techniques applied in the treatment of an autistic child. American Journal of Orthopsychiatry, 37 (1), 30-34.

A six year old boy received psychodynamic treatment for 12 months followed by a conditioning program in a ward milieu.

The program included: (A) conventional milieu therapy on the ward 5 days a week; (B) play therapy 2 or 3 times per week; (C) psychotherapy for the mother. On the basis of clinical assessement it was determined that specific behavior patterns were modified to a considerable degree. Peer interaction and verbal behavior were somewhat improved by the therapy while there was a definite decrease in temper tantrums, stereotyped behavior, and aggressive behavior. (From LLBA, 1967, *1*).

942. Jones, F., Simmons, J., & Frankel, F. (1974). An extinction procedure for eliminating self-destructive behavior in a 9-yr-old girl. *Journal of Autism and Childhood Schizophrenia*, *4* (3), 241-250.

A 24-week program of two daily two-hour sessions of noncontingent social isolation was successful in eliminating multiple self destructive behaviors in a nine year old autistic child. A previous program of response-contingent shock met with failure, resulting in: (1) increased self destructive responding; (2) complete suppression of self feeding; and (3) the necessity for constant physical restraint. Generalization of the extinction program to the ward was inferred on the basis of the S's subsequent cessation of restraint-wearing, a decrease in self destructive behavior in the dayroom, and subsequently in other settings following the removal of restraints, and a renewed interest in food. A brief program based upon elements of the noncontingent social isolation program was sufficient to reinstitute self feeding. The S was gradually removed from social isolation sessions with no reappearance of self destruction. However, during week 72, self destructive behavior again appeared, at which time a reinstatement of the original program dramatically reduced its rate. (From LLBA, *19* (1), Abstract No. 7504192).

943. Kehrer, H.E. (1974). Behavior therapy in childhood autism. (German).*Zeitschrift fur Kinder-und Jugendpsychiatrie*, *2* (3), 233-247.

Discusses the use of operant and aversion conditioning in treating 23 autistic children displaying behavioral defecits (lack of contact, mutism, dependency, and lack of sphincter control) or behavioral excesses (stereotypy, restlessness, self-destructiveness, and aggressiveness). Results indicated that 4 of 9 mute children acquired speech, 14 children demonstrated improvements in speech, 8 of 20 children with stereotypy showed excellent results, 5 good results, and 7 no change. (From PA, 1979, *61* (1), Abstract No. 4186).

944. Kehrer, H.E., & Budde, R. (1973). Verhabltenstherapie von knotaktstorungen bei autismus infantum (Germ). Behavior therapy of contact disturbances in autismus inantum. *Acta Paedopsychiatrica*, *39* (8/9/10), 253-263.

Autistic disturbances of two seven year old boys were systematically treated by means of behavior therapy. The therapy had a duration of 14 weeks (65 sessions). The method applied was operant conditioning with a slot-machine. In the last part of the program, learning through imitation was reinforced by conditions of competition. The result in one case was excellent, in the second one, moderately good. (From LLBA, 1973, *7* (2), Abstract No. 7304389).

945. Koegel, R.L., & Williams, J.A. (1980). Direct versus indirect response-reinforcer relationships in teaching autistic children. *Journal of Abnormal Child Psychology*, *8*, 537-547.

Three severely autistic children were taught a total of six new target behaviors (in a multiple-baseline design) employing either direct or indirect response-reinforcer relationships. The results showed rapid acquisition only when the target behavior was a direct part of the chain leading to the reinforcer. (From CDA, 1981, *55* (5-60, Abstract No. 1770).

946. Lelord,G., Gault, C., Fremaux, T., Adrien, J.L., Larosa, M., & Bitar, F. (1975). La therapie du comportement, dans l'autisme de l'enfant (Fr). Behavior therapy in infantile autism. *Revue de Neuropsychiatrie infantile et d'Hygiene Mentale de l'Enfance*, *23* (5-6), 267-283.

Behavior therapy as used regularly over the past 10 years in the U.S. is based on three fundamental principles: (1) the execution of gestures that can be conveyed, imitated, or suggested; (2) the reinforcement of these gestures by an alimentary, symbolic, or social act; & (3) the establishment of a link between the gestures & the reinforcement. This method results in new achievements by the autistic child, in better contact with the reality, & in a transformation of the child's behavior. Three cases of severely autistic children who had undergone this therapy are described. The favorable results obtained during the first months of treatment are in agreement with data reported by Anglo-Saxon workers. Behavior therapy consists of deconditioning rather than conditioning - it is an attempt to recreate the developmental stages of a normal child conditioned by the mother (external environment) rather than by the autostimulation of the autistic child. Behavior therapy does not seem to produce any more conditioning than methods of psychotherapy. It essentially consists of restructuring the environment. (From LLBA, 1976, 10 (2), Abstract No. 7604610).

947. Lichstein, K.L., & Schreibman, L. (1976). Employing electric shock with autistic children. A review of the side effects. Journal of Autism and Childhood Schizophrenia, 6 (2), 163-173.

Reviewed are 11 articles reporting side effects of employing electric shock with autistic children. The review indicated that the majority of reported side effects were of a positive nature, including response generalization, increases in social behavior, and positive emotional behavior. The few negative side effects reported included fear of the shock apparatus, negative emotional behavior, and increases in other maladaptive behavior. Implications of the findings were in terms of correct usage of the shock, therapist reservations, and alternative procedures. (From ECEA, 1977, 9 (1), Abstract No. 090042).

948. Litt, M.D., & Schreibman, L. (1981). Stimulus-reinforcement in the acquisition of receptive labels by autistic children. Analysis & Intervention in Developmental Disabilities, 1 (2), 171-186.

Reports on a study examining the effectiveness of 3 reinforcement procedures designed to elicit two-choice receptive label discriminations. Results indicated that stimulus-specific discrimination, in which a correct discrimination of each of the labels was consequated with a reinforcer unique to that label, to be superior to varied or salient reinforcement conditions. (From PA, 1982, 67 (4), Abstract No. 7910).

949. Lovaas, O.I., Koegel, R.L. (1973). Behavior therapy with autistic children. Society for the Study of Education Yearbook, 72 (1), 230-258.

Article provides a definition for diagnosing children as autistic and describes the positive effect behavior modification has had on the education of the autistic child. (From CIJE, 1973, Abstract No. EJ074112).

950. Lovaas, O.I., Schreibman, L., & Kegel, R.L. (1974). A behavior modification approach to the treatment of autistic children. Journal of Autism and Childhood Schizophrenia 4 (2), 111-129.

In the very short span of 12 years, behavior modification has contributed in a major way to the education of the autistic child. Its major contribution lies in its demonstrated effectiveness. As such, it is the only intervention which has been empirically demonstrated to offer help for autistic children. Each child who underwent treatment made measurable progress, even though the progress was slow and incremental and few children became "normal." (From LLBA, 1975, 9 (1), Abstract No. 7503019).

951. Lovaas, O.I., Schaeffer, B., & Simmons, J.Q. (1965). Building social behavior in autistic children by use of electric shock. Journal of Experimental Research in Personality, 1 (2), 99-109.

Discusses the use of painful electric shock in order to modify pathological behaviors in two 5-yr-old identical twins diagnosed as childhood schizophrenics. Socially appropriate behaviors towards adults increased when adults were paired with shock treatment. (From PA, 1966, 40 (1), Abstract No. 3230).

952. Lovaas, O.I. (1979). Contrasting illness and behavioral models for the treatment of autistic children: A historical perspective. Journal of Autism and Developmental Disorders, 9 (4), 315-323.

The author reviews the history of the behavioral approach in treatment of autistic children and contrasts aspects of the disease or illness model with the learning or behavioral model. He states that the disease model failed in identifying the cause and in providing effective treatment for autism. (From CIJE, 1981, Abstract No. EJ238484).

953. Lovaas, O.L., Koegel, R., Simmons, J.Q., & Long, J.S. (1973). Some generalization and follow-up measures on autistic children in behavior therapy. Journal of Applied Behavior Analysis, 6 (1), 131-165.

Twenty autistic children were treated with behavior therapy. At intake, most of the children were severely disturbed, having symptoms indicating an extremely poor prognosis. The children were treated in separate groups, and some were treated more than once, allowing for within- and between-S replications of treatment effects. Reliable measures of generalization were employed across situations and behaviors as well as across time (follow-up). The findings can be summarized as follows: (1) Inappropriate behaviors (self-stimulation and echolalia) decreased during treatment, and appropriate behaviors (appropriate speech, appropriate play, and social nonverbal behaviors) increased; (2) Spontaneous social interactions and the spontaneous use of language occurred about eight months into treatment for some of the children; (3) IQs and social quotients reflected improvement during treatment; (4) There were no exceptions to the improvement, however, some of the children improved more than others; (5) Follow-up measures recorded one to four years after treatment showed that large differences between groups of children depended upon the post-treatment environment (those groups whose parents were trained to carry out behavior therapy continued to improve, while children who were institutionalized regressed); and (6) A brief reinstatement of behavior therapy could temporarily re-establish some of the original therapeutic gains made by the children who were subsequently institutionalized. (From LLBA, 1973, 7 (2), Abstract No. 7304367).

954. Luiselli, J.K., Helfen, C.S., Pemberton, B.W., & Reisman, J. (1977). The elimination of a child's in-class masturbation by overcorrection and reinforcement. Journal of Behavior Therapy & Experimental Psychiatry, 8 (2), 201-204.

Reports of a treatment program designed to eliminate masturbation in a 8-yr-old autistic mentally retarded male. While reinforcement of incompatible behaviors was unsuccessful in producing desired results, the use of "practicing" overcorrection responses contigent on masturbation successfully eliminated all masturbation behaviors. (From PA, 1978, 59 (2), Abstract No. 12749).

955. Luiselli, J.K. (1978). Treatment of an autistic child's fear of riding a school bus through exposure and reinforcement. Journal of Behavior Therapy & Experimental Psychiatry, 9 (2), 169-172.

Discusses the use of reinforcement procedures (administered by the mother) designed to eliminate a 7-yr-old autistic males fear of riding a bus. Following nine days of reinforcement for spending short periods of time in a parked bus, the child was capable of riding the bus independently. (From PA, 1980, 63 (1), Abstract No. 1576).

956. Luiselli, J.K., Reisman, J., Helfen, C.S., & Pemberton, B.W. (1976). Control of self-stimulatory behavior of an autistic child through brief physical restraint. School Applications of Learning Theory, 9 (2), 3-13.

Clapping and rocking behaviors of a 7-year-old autistic child were successfully treated with brief physical restraint procedures, with the effects persisting through a 7-week follow-up. (From CDA, 1978, 52 (1-2), Abstract No. 436).

957. Margolies, R.J. (1977). Behavioral approaches to the treatment of early infantile autism: A review. *Psychological Bulletin*, *84*, 249-264.

It is concluded that, although the level of product has been generally less than experimental (or quasi-experimental) in nature, there is reason to believe that behaviorial intervention has been associated with real behavior change. (From CDA, 1977, *51* (5-6), Abstract No. 1131).

958. Marholin, D., & Townsend, N.M. (1978). An experimental analysis of side effects and response maintenance of a modified overcorrection procedure: The case of the persistent twiddler. *Behavior Therapy*, *9* (3), 383-390.

Utilized an ABCB design in order to eliminate hand stereotypic behavior and twiddling in a ten-year-old autistic female. Findings indicated that the three-minute overcorrection procedure (B), produced slightly more response maintenance than the five-minute duration(C). This effect however, was reversed when reinstatment of the three-minute duration was made. (From PA, 1979, *62* (1), Abstract No. 4151).

959. Marshall, G.R. (1966). Toilet training of an autistic eight-year-old through conditioning therapy: A case report. *Behavior Research and Therapy*, *4*, 242-245.

960. Martin, G. (1975). Brief time-outs as consequences for errors curing training programs with autistic and retarded children: A questionable procedure. *Psychological Record*, *25*, 71-89.

Four autistic and eight retarded children were studied. The tasks included antonym learning, picture naming, and drawing. Time-out durations ranged from 0 to 30 seconds. In all cases, Ss either made the same or fewer errors on the lowest time-out duration, or, if they did make fewer errors on a longer time-out condition, its use was not warranted when considered in terms of efficient use of training time. The results question the value of brief time-outs as consequences for errors during training programs with these S populations. (From CDA, 1975, *49* (5-6), Abstract No. 1325).

961. Martin, G.L., & Pear, J.J. (1970). Short term participation by 130 undergraduates as operant conditioners in an ongoing project with autistic children. *Psychological Record*, *20* (3), 327-336.

An earlier, intensive, summer project resulted in an effective therapy program for autistic children. The only assistance for continuing the program during the academic term was from four undergraduates skilled in operant conditioning (each available for two hours per week) and undergraduates enrolled in the author's courses. Under these conditions, a program was developed that maintained daily therapy sessions with autistic children, while giving training to inexperienced undergraduates. Data pertaining to the effectiveness of the daily therapy sessions and the training of the undergraduates are presented, and variables thought to be important to the success of the program are discussed. (From LLBA, 1971, *5* (2), Abstract No. E02014).

962. Matson, J.L. (1977). Simple correction for treating an autistic boy's encopresis. *Psychological Reports* *41* (3, Pt. 1). 802.

Discusses treatment designed to toilet-train a 16-year-old autistic male. Encropresis was eliminated through self-involvement of clean-up procedures of accidents by the child. (From PA, 1978, *60* (2), Abstract No. 9782).

963. Matsui, O. & Nakayam, T. (1973). The treatment of autistic children with behavior therapy. (Case study I). *Japanese Journal of Child Psychiatry*,*14* 36-45.

Behavior modification procedures lead to the impression that "the discriminative stimulus of autistic children may be remarkably different from that of normal children or of mentally retarded ones. It is a problem of the cognitive structure of autistic children." In the case studied, rigid play behavior had disturbed the child's development. Conditioning did not always progress well. How to overcome difficulties in discrimination and generalization is one of the problems to be solved in the future. (From CDA, 1974, *48* (3-4), Abstract No. 738).

964. Mazuryk, G.F., et al. (1978). Behavior therapy for autistic children: A study of acceptability and outcome. *Child Psychiatry and Human Development*, *9* (2), 119-125.

An inpatient program for autistic children which used behavior modification methods is described, and a follow-up study of the first 15 children (mean age 65.9 months at admission) discharged from the program, is reported. In general, the outcome results appear to be comparable to those of other treatment methods. A second main purpose of the study was to assess the acceptability of this program to parents and to document their impressions regarding their child's period of inpatient care. Overall, a high level of acceptability was found. (From ECEA, 1980, 2 (1), Abstract No. 120740).

965. Metz, J.R. (1965). Conditioning generalized imitation in autistic children. Journal of Experimental Child Psychology, 2, 389-399.

Generalized imitative behavior, commonly found in normal children but reduced or absent in autistic children, was studied in two autistic children. Operant conditioning methods were applied to teach the children generalized imitative behavior in a laboratory setting. The children learned to imitate on specifically trained tasks. More importantly, this learning generalized to similar but new tasks where specific training and specific rewards were not given. (From CDA, 1966, 40 (3-4), Abstract No. 358).

966. Morrison, D., Mejia, B., & Miller, D. (1968). Staff conflicts in the use of operant techniques with autistic children. American Journal of Orthopsychiatry, 38 (4), 647-652.

Reports on the difficulties associated with the use of food as a reinforcer in a treatment procedure with a six-year-old autistic child. (From PA, 1969, 43 (2), Abstract No. 17702).

967. Murray, M.E. (1974). The treatment of autism: A human protest. The Journal of Humanistic Psychology, 14 (2), 57-59.

A case report of a nine year-old autistic child undergoing behavior modification procedures to help him in the acquisition of imitative language. His surprising reaction to the frustration of a mechanistic environment is a strong reminder of the limitations of our knowledge about psychopathology and personality development. (From LLBA, 1978, 12 (2), Abstract No. 7804756).

968. McConnell, O.L. (1967). Control of eye contact in an autistic child. Journal of Child Psychology and Psychiatry, 8, 249-255.

This study demonstrates the use of operant conditioning techniques in overcoming the visual avoidance of a 5-1/2 year-old Negro boy with infantile autism. The research included 33 sessions, each lasting 45 minutes. The paradigm involved baseline rates, conditioning, extinction, and reconditioning sessions. Stimulus control was demonstrated by alternating Sd s and S s. Finally eye contact was chained to the S's emerging verbal responses.

Related changes in approach, exploratory, and emotional behavior were observed. Discussion focuses on problems of generalization and on the therapeutic effects of acquiring eye contact. (From CDA, 1969, 43 (1-2), Abstract No. 243).

969. Nakayama, O., & Nakayama, T. (1974). The treatment of autistic children using operant conditioning techniques. (Japn). *Japanese Journal of Child Psychiatry*, *15* (1), 29-40.

Describes the use of operant conditioning methods with autistic children designed to promote social development and communication. The use of primary and secondary reinforcers (unique to each child) and the process ultimately helping children to communicate basic needs is described. (From PA, 1979, 62 (2), Abstract No. 14256).

970. Ney, P.G. (1973). Effect of contingent and non-contingent reinforcement on the behavior of an autistic child. *Journal of Autism and Childhood Schizophrenia*, *3* (2), 115-127.

An experimental study designed to determine the effects of noncontingent and contingent reinforcement of eye contact on the behavior of a 4-1/2 year old autistic boy is presented after a brief critical review of pertinent literature. Rate changes in 20 types of behavior comprising a variety of simple responses, contacts, vocalizations, verbalizations, or movements under the two reinforcement conditions and during baseline were recorded and compared. Significant changes were found in the frequency of vocalization, eye contact, and when the child placed his hands over his ears. It is suggested that when many types of behavior are examined simultaneously there are some which show as marked a change during noncontingent as during contingent reinforcement. Reinforcement could be a setting stimulus changing the child's expectations and prompting many changes in behavior that might be thought to result from the reinforcement procedure. (From LLBA, 1974, 8 (1), Abstract No. 7403132).

971. Nordquist, V.M., & Wahler, R.G. (1973). Naturalistic treatment of an autistic child. *Journal of Applied Behavior Analysis*, *6* (1), 79-87.

A "naturalistic" treatment program for an autistic child administered by the parents over a two year period was experimentally evaluated. Operant reinforcement techniques were initially assessed in a clinic and eventually in the family's home. Experimental manipulations were performed in both settings on rituals, crying and whining, compliance, nonverbal imitation, and verbal imitation. The results clearly indicate that parents can effectively treat autistic behaviors provided that they receive adequate training and supervision in operant reinforcement therapy, and provided that sufficiently potent reinforcers are available to maintain behavior. (From LLBA, 1973, 72, Abstract No. 7304405).

972. Paton, R.T., & Wilde, G.J. (1970). The influence of three reinforcement modifications on perseveration in psychotic children. Canadian Psychologist, 11 (3), 261-268.

Discusses the use of an operant conditioning approach designed to teach schizophrenic and autistic children a simple discrimination task. Results indicated that low perseverators responded more effectively than did high perseverators, but that learning did occur for both groups. Recommendations for the use of behavior modification as a treatment approach for childhood psychosis are made. (From PA, 1970, 44 (2), Abstract No. 21279).

973. Plummer,S., Baer, D., & LeBlanc, J. (1977). Functional considerations in the use of procedural timeout and an effective alternative. Journal of Applied Behavior Analysis, 10 (4), 689-705.

Discusses two single-subject experiments with autistic children (male and female aged five years). In the first experiment, an ABA reversal within a multiple baseline design was implemented in order to assess disruptive, appropriate, and inappropriate behavior. In experiment two, teachers implemented baseline and paced instruction-plus-reinforcement conditions in order to investigate the inappropriate and appropriate eating behaviors of a five-year-old male. Results indicated that paced instruction combine with reinforcement most effectively reduces inappropriate behavior. (From PA, 1979, 61 (1), Abstract No. 2310).

974. Quenville, P. (1980). Teaching a young autistic boy how to wash his hands and face. B.C. Journal of Special Education, 4 (1), 87-93.

Marked positive changes were observed in face and hand washing behavior over the 10 session behavior modification program which employed a chocolate milkshake as the major material reinforcer. (From CIJE, 1981, Abstract No. EJ230444).

975. Rimland, B. (1978). A risk/benefit perspective on the use

of aversives. *Journal of Autism and Childhood Schizophrenia*, 8 (1), 100-113.

Reviews issues associated with the use of aversive stimuli in autistic individuals. (From PA, 1979, 61 (2), Abstract No. 13869).

976. Rincover, A., Newsom, C., Lovaas, O.I. & Koegel, L. (1977). Some motivational properties of sensory stimulation in psychotic children. *Journal of Experimental Child Psychology*, 24, 312-323.

The experiment assessed the reinforcing properties of sensory stimulation for autistic children. Three different types of sensory stimulation were used: music, visual flickering stimulation, and visual movement. In a given session, one of the three kinds of sensory stimulation was presented for 5 sec contingent upon the children's bar pressing. The results suggest that sensory reinforcers can profitably be used in behavior therapy with autistic children. (From CDA, 1978, 52, (3-4), Abstract No. (16).

977. Rincover, A. (1968). Sensory extinction: a procedure for eliminating self-stimulatory behavior in developmentally disabled children. Journal of Abnormal Child Psychology, 6 (3), 299-310.

Discusses the use of serious sensory reinforcement procedures in the maintenance of self-stimulatory behaviors in autistic children. Introduces a new procedure-sensory-extinction, order to determine whether self-stimulation is operant behavior maintained by reinforcement. Suggestions for future research utilizing this technique are made. (From PA, 1980, 64 (1), Abstract 1662).

978. Rincover, A. et al. (1979). Sensory extinction and sensory reinforcement principles for programming multiple adaptive behavior change. Journal of Applied Behavior Analysis, 12, 221-233.

979. Risley, T. (1968). The effects and side effects of punishing the autistic behaviors of a deviant child. Journal of Applied Behavior Analysis, 1, 21-34.

980. Rutter, M. (1971). A developmental and behavioral approach to the treatment of preschool autistic children. Journal of Autism and Childhood Schizophrenia, 1 (4), 376-297.

A scheme for the treatment of young preschool autistic children is described in which behavioral modification techniques in a developmental context are applied to problems involving failures in social development as well as in the development of language, a tendency to develop rigid and stereotyped behavior patterns, and the emergence of maladaptive and disruptive behavior. Emphasis is placed on the combination of behavioral modification with parent counseling and social work. Also noted are other aspects of treatment such as counseling, practical social services, medical and dental care, and care in nursery schools. The methods are subjected to a systematic evaluation in an ongoing investigation. (From LLBA, 1972, 6 (2), Abstract No. 7204907).

981. Savie, P. & Dickie, R.F. (1979). Overcorrection of topographically dissimilar autistic behaviors. Education and Treatment of Children, 2 (3), 177-184.

Response contingent overcorrection was used to reduce the frequency of three topographially dissimilar inappropriate behaviors emitted by a 12 year old profoundly handicapped autistic girl. Response suppression occurred for three of four behaviors when each was treated on a staggered basis using a multiple baseline design. However, transitory generalization effects were observed for the second and third behaviors when treatment was introduced for the first and second behaviors. A fourth behavior, which remained untreated, underwent a significant reduction in frequency of occurrence coincident with the introduction of treatment for the first behavior. (From ECEA, 1980, 12 (2), Abstract No. 122151).

982. Schreibman, L., Koegel, R.L., Mills, J.I., & Burke, J.C. (1981). Social validation of behavior therapy with autistic children. Behavior Therapy, 12 (5), 610-624.

Reports the results of a study designed to investigate the effectiveness of behavior therapy in post treatment social behaviors of autistic children aged, three-nine years. Trained observers and undergraduates objectively and subjectively evaluated behavioral changes of autistic children as observed in videotapes. Findings in general indicated that high changed groups of children were rated more positively in terms of social behavior than comparison low change groups. (From PA, 1982, 67 (4), Abstract No. 8229).

983. Schreibman, L., & Lovaas, O.I. (1974). Rejoinder to Murray's article. The Journal of Humanistic Psychology, 14 (2), 61-62.

A critique of the claim that an autistic child voiced his protest against being dehumanized and mechanized by a behavior modification procedure. The child's "protest" takes the form of a single verbal response. Issue is taken with Murray's interpretation of the child's response; and concern expressed about the dangers of interpreting a response that is quite possibly an instance of psychotic speech as a conscious, meaningful statement. The danger lies in the fact that the child might be seen as less psychotic than he is, and therefore not receive the level of treatment he requires. It is suggested that Murray's procedures should not be called behavior modification because they are not those that a good behavior therapist would use. The child's statement is possibly an instance of delayed echolalia: this contention is supported by pointing to the typical patterns of autistic language. (From LLBA, 8, Abstract No. 7405987).

984. Shivarathnamma, N. (1979). Treatment report of an autistic child: Monozygotic twin concordant to autism. Indian Journal of Clinical Psychology, 6 (2), 95-100.

Describes the use of intrusion, interruption, and relationship development behavior modification techniques designed to treat an autistic five-year-old male. Partial success was achieved in developing communicative relatedness to others. (From PA, 1981, 65 (2), Abstract No. 8513).

985. Simpson, J.C., III. (1978). An analysis of the effects of behavior covariation in the treatment of an autistic child. UMI, Ann Arbor, MI, 48106.

Findings from a study of behavior covariation treatment with an autistic child indicated that the procedure produced multiple behavior change by treating one behavior, and made it possible to predict side effects of the observed behaviors. (From ECER, 1980, 12, Abstract No. EC121058).

986. Simpson, R. & Swenson, C.R. (1980). The effects and side-effects of an overcorrection procedure applied by parents of severely emotionally disturbed children in a home environment. Behavioral Disorders, 5 (2), 79-85.

The effects and side effects of overcorrection procedures applied by teachers and parents to treat the self-stimulatory behavior of two autistic like elementary school age children were investigated. Following a baseline period, overcorrection was differentially implemented in a public school classroom by a teacher, in the home setting by the parents, and in both environments simultaneously. Proximity to others, and playing appropriately were identified as positive behavioral correlates for both Ss. The results showed that in each setting, overcorrection procedures were associated with statistically significant differences in the target behaviors. Across the various treatment settings, only one adaptive behavior (proximity) for one S was shown to be significantly different. However, two-thirds of the untreated self stimulatory behaviors changed in desirable and significant directions. It was also noted that the lowest levels of the target behaviors were attained when the overcorrection procedures were applied simultaneously in both school and home environments. (From ECEA, 1980, 12 (3), Abstract No. 1234390).

987. Solnick, J.V., Rincover, A., & Peterson, C.R. (1977). Some determinants of the reinforcing and punishing effects of timeout. Journal of Applied Behavior Analysis, 10 (3), 415-424.

Discusses the use of time-out procedures with a six-year-old autistic female, and 16-year-old retarded male. While initially time out unsuccessfully reduced target maladaptive behaviors, it was determined that time-out combined with toys, continuous prompting, and praise was an effective punisher. (From PA, 1978, 60 (2), Abstract No. 7913).

988. Steeves, J.M. et al. (1970). Self-imposed time-out by autistic children during an operant training program. Behavior Therapy, 1 (3), 371-381.

Studies are mentioned which have used a time-out (TO) from positive reinforcement (a period of time when positive reinforcement is not available) as punishment, and others suggesting TO may have reinforcing properties under certain conditions. Described is a study to determine if autistic children would voluntarily impose TO's during operant training. Two autistic boys, Garry and Peter, received training on a verbal and a printing task. Correct responses were reinforced with tokens exchangeable for popcorn on a 5/1 ratio. When permitted, Garry voluntarily imposed 30-second TOs but was attentive during the rest of the session. When TOs were discontinued, his inattentiveness increased. Peter did not impose TOs, even when the token ratio was raised to 65/1, but his inattentiveness did increase as the ratio increased. Results suggest the necessity of further studies of the conditions under which TOs serve as punishers and as reinforcers, given their increasing use as punishment in behavioral applications with subnormal children. (From ECEA, 1971, 2 (4), Abstract No. 0063160).

989. Streifel, J.A., Smith, P.A., & Savino, L.J. (1976). The intensive treatment team: Delivering behavioral treatment in a residential setting. Hospital and Community Psychiatry, 27 (10), 697-698.

Describes the effectiveness of using a team approach in implementing behavior therapy programs for autistic children. The various methods utilized by the authors in a center for autistic children are discussed, and the advantages of such an approach are highlighted. (From PA, 1977, 57 (2), Abstract No. 10879).

990. Sullivan, R.C. (1978). Risks and benefits in the treatment of autistic children. Journal of Autism and Childhood Schizophrenia, 8 (1), 99-113.

B. Rimland speaks of the risk/benefit ratio of aversives for use with autistic children, and parents comment on the concept. Rimland outlines several objections to aversives, including ideological opposition, fear of overuse or abuse of aversives, and dread of electric shock. Respondents do not all approve the use of aversives, but all agree that strict controls, including informed parent consent and cooperation, are absolutely imperative. (From ECEA, 1979, *10* (4), Abstract No. 104135).

991. Tanner, B.A., & Zeiler, M. (1975). Punishment of self-injurious behavior using aromatic ammonia as the aversive stimulus. *Journal of Applied Behavior Analysis*, *8* (1), 53-57.

Describes the use of aromatic ammonia in order to extinguish self-injurious behavior in 20-year-old autistic females. Results indicated that successful results were obtainable only when amonia was utilized in both experimental sessions and in the ward at all times. (From PA, 1975, *54* (1), Abstract No. 3761).

992. Umeu, K. et al. (1972). The treatment of autistic children with behavior therapy. *Japanese Journal of Child Psychiatry*, *13*, 73-88.

The author has developed several forms of behavior therapy since 1955. Four years ago, a project was begun to ascertain the effect of behavior therapy on autistic children. Therapists change roles from individual therapy to group therapy or guidance meetings for mothers every month. This is quite a unique practice in therapy. In the course of therapy, whether group or individual treatment is used, the mothers are always included as part of the therapy. There are many learning problems for the patient such as daily habits, motor skills and performance, verbal behavior, numerical notions, body image, abstract concepts, etc. We constructed each differentiated procedure in small steps. To promote learning and modify behavior, the primary reinforcer may combined with a secondary one or a positive one with a negative one. The Seiken-Shiki CLAC (check list for autistic children) that we recently developed is applied to the children to evaluate their progress in the course of therapy. We also describe in some detail the content of learning in the booth, problem learning in picture tests and block tests, verbal learning, and "Yobikake Kunren" (training for calling names). (From CDA, 1973, *47* (3-4), Abstract No. 665).

993. Webster, C.D. (1977). A negative reaction to the use of electric shock with autistic children. *Journal of Autism and Childhood Schizophrenia*, *7* (2), 199-202.

A critical analysis of K.L. Lichstein and L. Schreibman's (1976) paper which defended the use of electric shock with autistic children. Suggestions for alternative treatment approaches are made. (From PA, 1978, *59* (2), Abstract No.

10456).

994. Wells, K.C., Forehand, R., Hickey, K., & Green K.D. (1977). Effects of a procedure derived from overcorrection principle on manipulated and nonmanipulated behaviors. *Journal of Applied Behavior Analysis*, *10* (4), 679-687.

Reports of the use of positive practice overcorrection in effectively motivating appropriate behaviors and reducing stereotypy in a pair of autistic 10-year-old twins. It is suggested that obtained results tend to support the contention that overcorrection procedures may be appropriate treatment strategies for some autistic individuals. (From PA, 1979, *61* (1), Abstract No. 1579).

995. Wells, K.C., et al. (1977). Effects of a verbal warning and overcorrection on stereotyped and appropriate behaviors. *Journal of Abnormal Child Psychology*, *5* (4), 387-403.

In Experiment I, the effects of a verbal warning, such as is used in overcorrection, delivered contigently on the stereotyped mouthing behavior of two 10 year old autistic/ retarded children were examined. A multiple baseline design across Ss was used. The results indicated that the mouthing of one child was reduced to a near-zero level and mouthing of the second child was moderately reduced. Appropriate toy play and inappropriate object manipulation failed to show systematic changes in occurrence when mouthing was decelerated. In Experiment II, the same Ss and experimental design were used to assess the effects of a positive practice overcorrection procedure delivered contingent on mouthing behavior. Overcorrection reduced the mouthing of both Ss. There were no systematic changes in inappropriate object manipulation, but one S did demonstrate an increased occurrence of appropriate toy play. In addition, this S often engaged in aggressive/ escape behaviors during overcorrection, suggesting that the procedure was aversive to him. (From ECEA, 1978, *10* (3), Abstract No. 102816).

996. Wetzel, R. et al. (1966). Outpatient treatment of autistic behavior. *Behavior Research and Therapy*, *4*, 169-177.

997. Williams, J.A., et al. (1981). Response-reinforcer relationships and improvement in autistic children. *Journal of Applied Behavior Analysis*, *14* (1), 53-60.

The experiment assessed, within a multiple baseline design, the possibility of improving the learning of three autistic children (4 to 7 years old) by changing arbitrary response-reinforcer relationships so that the target behaviors became functional (i.e. a direct part of the response chain required for the child to procure the reinforcer). (From CIJE, 1981, Abstract No. EJ243972).

998. Wilson, B., & Jackson, J. (1980). An in vivo approach to the desensitization of a retarded child's toilet phobia. Australian Journal of Developmental Disabilities, 6 (3), 137-140.

Describes the utilization of a gradual approximations approach combined with a mastery model in the treatment of a toilet phobic autistic five-year-old male. Successful results were obtained with generalization to nontreatment settings. (From PA, 1981, 66 (2), Abstract No. 8567).

999. Wischner, G.J. (1972). Behavior theory, behavior therapy, and speech deviations. Folia Phoniatrica, 24 (2), 105-149.

An examination of the modification of deviant speech behaviors in the context of contemporary developments in behavior therapy. Methodological issues involved in both the extension and application of behavior or learning theory to complex process are highlighted. Notes on behavior therapy consider problems of definition, assumptions, issues pertaining to behavioral and medical models, and specific behavior therapy frameworks, including those associated with Skinner's operant conditioning procedures, Wolpe's reciprocal inhibition techniques, and Bandura's modeling processes. An evaluative analysis is made of attempts to apply behavior therapy procedures to a variety of speech deviations including speech and language problems in autistic children, and stuttering behavior. Brief reference is made to programmed instruction for aphasics, programmed conditioning procedures for children with language disorders, social anxiety (stage fright), and specific voice problems. (From LLBA, 1973, 7 (1), Abstract No. 7301391).

1000. Wolery, M.R. (1978). Self-stimulatory behavior as a basis for devising reinforcers. AAESPH Review, 3 (1), 23-39.

Sensory stimulation, similar to that received during self stimulation, was administered to one autistic and one multiply handicapped child (6 and 4 year old) contingent upon correct response to a manipulative task. Results indicated that the reinforcement accelerated the rate of response behavior and supported the assumption that sensory stimulation may be competitive with self stimulation. (From ECEA, 1979, 10 (4), Abstract No. 104062).

1001. Wolf, M. et al. (1967). Application of operant conditioning procedures to the behavior problems of an autistic child: A follow-up and extension. Behavior Research & Therapy, 5 (2), 103-111.

Discusses the use of behavior modification procedures with an autistic nursery school aged child in order to remediate tantrums, pinching, and toilet training. (From PA, 1967, 41, Abstract No. 12285).

1002. Woods, T.S. (1980). Bringing autistic self-stimulatory behavior under S-delta stimulus control. B.C. Journal of Special Education, 4 (1), 61-70.

Three self-stimulating behaviors of a 6-year-old autistic boy were brought under S-delta stimulus control (a type of discriminative stimulus in the presence of which a given response is punished). (From CIJE, 1981, Abstract No. EJ230442).

1003. Woods, T.S. (1978). Reducing the disparity between model stimulus and imitative response in two autistic subjects. B.C. Journal of Special Education, 2 (1), 49-55.

Two autistic boys, ages 6 and 10 years, whose imitative responding was functionally inaccurate and whose performance generalized poorly, were trained to imitate accurately using a reinforcement-extinction strategy. Performance was improved to 100% accuracy and generalized across four specified situational variations: (1) to other model stimuli, (2) to another classroom setting, (3) to other presenting personnel, and (4) with a one month follow-up. (From ECEA, 1979, 11, Abstract No. EC110095).

1004. Woods, T.S. (1978). Behavior modification and the autistic child. B.C Journal of Special Education, 2 (4), 339-350.

The article reviews the recent literature dealing with teaching autistic children acceptable behaviors using behavior modification techniques. Behavioral areas covered include speech and language deficits, developmental discontinuity, perceptual difficulties, bizarre motility patterns, and interpersonal problems. Teaching procedures to overcome weaknesses in each area are reviewed. (From ECEA, 1979, 11 (3), Abstract No. 113378).

1005. Yeakel, M.Y., Salisbury, L.L. Greer, S.L., & Marcus, L.F. (1970). An appliance for autoinduced adverse control of self-injurious behavior. Journal of Experimental Child Psychology, 10, 159-169.

An appliance is described which is designed to control the self-injurious behavior of an autistic child. The appliance, which is worn like a bonnet or hat, delivers an adverse electric shock to the arm of the patient whenever the head is struck either by the patient himself or some extraneous inanimate object. Two methods of operating the switching mechanism and an inflatable, completely protective device are also discussed. (From CDA, 1971, 45 (3-4), Abstract No. 655).

1006. Zifferblatt, S.M. et al. (1977). Establishing generalization effects among autistic children. Journal of Autism and Childhood Schizophrenia, 7 (4), 337-347.

Using behaviorally based treatment and teachers and parents as trainers, generalization effects between home and school were measured on four behaviors using 12 autistic boys (aged 9 to 14 years). The results indicated that both settings were effective in establishing generalization. Behaviors treated in one setting generalized to another when children were provided with an opportunity for daily practice. Treatment with practice in other settings was possible in contrast to providing treatment on the same behavior in both settings. (From ECEA, 1978, 10 (3), Abstract No. 102836).

1007. Bencich, E.Z., & Benckch, L.M. (1975). Training autistic children to respond to simultaneous stimuli. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

Among results of auditory and visual stimulus cue training of six autistic children was that they were able to learn to discriminate between the cues and to give appropriate responses to simultaneous stimuli presentations. (From ECEA, 1979, 11 (1), Abstract No. 111613).

1008. Boucher, J. (1977). Alternation and sequencing behavior, and response to novelty in autistic children. Journal of Child Psychology and Psychiatry, 18, 67-72.

Autistic children were compared with controls paired with the experimental Ss for sex, age, and nonverbal ability in a test of alternation and sequencing behavior, and response to novelty. The autistic children showed reduced alternation and response to novelty. Their sequences also showed a tendency to follow strict rules at all ages and ability levels, which was not the case in the control group. (From CDA, 1978, 52 (1-2), Abstract No. 40).

1009. Condon, W.S. (1975). Multiple response to sound in dysfunctional children. Journal of Autism & Childhood Schizophrenia, 5 (1), 37-56.

Twenty-five dysfunctional (either autistic-like or with reading disorders) Ss ranging in age from 2 months to 25 years were studied to determine whether they respond to the same sound more than once. (From CIJE, 1976, Abstract No. EJ 122659).

1010. Edwards, J.L., et al. (1976). A case report of an autistic boy. Selective responding to components of bidimensional visual and auditory stimul. Journal of Autism and Childhood Schizophrenia, 6 (2), 139-146.

Selective responding to components of bidimensional visual and auditory stimuli was investigated with a 9-year-old autistic boy. The S was initially trained to discriminate between two auditory stimuli and two visual stimuli, and then tested for overselective responding to bidimensional combinations of the four stimuli. No overselective responding was demonstrated, and it was hypothesized that overselectivity results reported in previous studies were partially a function of the study design. (From ECEA, 1977, 9 (1), Abstract No. 090039).

1011. Egel, A.L. (1981). Reinforcer variation: Implications for motivating developmentally disabled children. Journal of Applied Behavior Analysis, 4 (3), 345-350.

Investigated the effectiveness of constant and varied reinforcement presentation on motivating one developmentally disabled child and two autistic children. Results indicated that varied reinforcement presentation rather than identical reinforcement lead to significantly improved and stable responses. (From PA, 1982, 67 (3), Abstract No. 6405).

1012. Fein, D. et al. (1979). Stimulus generalization in autistic and normal children. Journal of Child Psychology and Psychiatry and Allied Disciplines, 20 (4), 325-326.

A comparative assessment of eight normal and eight psychotic children in a stimulus generalization paradigm using simple and complex figures. Six of the subjects fulfilled the criteria for infantile autism. (From CIJE, 1980, Abstract No. EJ216570).

1013. Freeman, B.J. et al. (1977, April). The effects of number of stimuli on rate of discrimination learning in autistic children. Paper presented at the Western Psychological Association Meeting, Seattle, Washington.

Examined were the effects of number of stimuli and of two different stimulus modalities on the discrimination learning of 17 autistic children (mean age 57 months). Discrimination training was carried out in three groups with varied light and sound stimuli. Among findings was that mental age was negatively correlated with trials to criterion and positively correlated with response rate. (From ECEA, 1978, 10 (2), Abstract No. 101415).

1014. Hermelin, B., & O'Connor, N. (1964). Effects of sensory input and sensory dominance on severely disturbed, autistic children and subnormal controls. British Journal of Psychiatry, 55 (20), 201-206.

Investigated sensory dominance, sense discrimination learning, and the dynamics of this learning process in autistic children and imbecile controls. Findings included: (1) psychotic and control children responded most satisfactorily to light stimuli; (2) differential rewarding in similar dominance changes as observed in both groups; (3) control children learned to suppress a previously dominant stimuli orientation habit more quickly than autistic children. (From PA, 1965, 39 (1), Abstract No. 3314).

1015. Hill, E.F. (1966). Affect aroused by color, a function of stimulus strength. Journal of Projective Techniques & Personality Assessment, 30 (1), 23-30.

Report on a study designed to determine the relative stimulus strength of colour and degree of autism on the response to colour. Subjects were 30 male schizophrenics, 15 high autistic and 15 low autistic. Findings appeared to indicate that response to colour is a function of stimulus strength of the colour and the degree of autism. (From PA, 1966, 40 (1), Abstract No. 5487).

1016. James, A.L., & Barry, F.J. (1980). Respiratory and vascular responses to simple visual stimuli in autistics, retardates, and normals. Psychophysiology, 17 (6), 541-547.

Discusses the results of two experiments which investigated variability in respiratory period, peripheral pulse amplitude, and cephalic pulse amplitude in 20 autistic, 20 mentally retarded, and 20 normal children 4-17 years of age. Results indicated that autistic children demonstrate developmental lags in phasic vascular response measures. (From PA, 1981, 66 (2), Abstract No. 8102).

1017. Koegel, R.L., & Wilhelm, H. (1973). Selective responding to the components of multiple visual cues by autistic children. Journal of Experimental Child Psychology, 15 (3), 442-453.

Fifteen autistic and 15 normal Ss were trained to respond to a card containing two visual cues. The children were further tested on the single cues in order to assess whether one or both stimuli had acquired control over their responding. (From CIJE, 1973, Abstract No. EJ 081898).

1018. Koegel, R.L., & Schreibman, L. (1976). Identification of consistent responding to auditory stimuli by a functionally "deaf" autistic child. Journal of Autism and Childhood Schizophrenia, 6 (2), 147-156.

The nature of unresponsiveness in a functionally "deaf" autistic child was investigated with a 5-year-old boy. Responses to white noise and the sound of a candy machine delivering candy were measured. Results indicated consistent responding to both noises. White noise thresholds remained constant on a given day but varied from day to day, and responses to the candy machine stimulus always occurred at sound levels that were well below the threshold for the white noise. (From ECEA, 1977, 9 (1), Abstract No. 090040).

1019. Koegel, R.L., & Schreibman, L. (1977). Teaching autistic children to respond to simultaneous multiple cues. Journal of Experimental Child Psychology, 24 (2), 299-311.

In order to investigate the hypothesis that autistic children tend to learn new discriminations by responding to only a restricted number of available cues, this study assessed the feasibility of teaching autistic children to respond to multiple cues. (From CIJE, 1978, Abstract No. EJ168346).

1020. Koegel, R.L., & Lovaas, O.I. (1978). Comments on autism and stimulus overselectivity. Journal of Abnormal Psychology, 87 (5), 563-565.

Criticizes results obtained by A.J. Litrownick et al. with respect to description, effects of testing procedures, IQ and MA, and the meaning of stimulus overselectivity. (From PA, 1979, 62 (1), Abstract No. 6100).

1021. Koegel, R., Schreibman, L., Britten, K., Laitinen, R. (1979). The effects of schedule of reinforcement on stimulus overselectivity in autistic children. Journal of Autism and Developmental Disorders, 9 (4), 383.

1022. Kolko, D.J., Anderson, L., & Campbell, M. (1980). Sensory preference and overselective responding in autistic children. Journal of Autism and Developmental Disorders, 10, 259-271.

Autistic and normal children were allowed to register a sensory modality preference by bar pressing to select either a visual or an auditory stimulus. The children were then taught a discrimination between the presence or absence of a compound auditory-visual stimulus. Testing for stimulus overselectivity revealed that the autistic children attended to only one aspect of the compound stimulus. In all cases this was the sensory modality that was selected during the preference test. (From CDA, 1981, 55 (1-2), Abstract No. 96).

1023. Kootz, J., Marinelli, B., & Cohen, D. (1981). Sensory receptor sensitivity in autistic children: Response times to proximal and distal stimulation. Archives of General Psychiatry, 38 (3), 271-273.

Investigated the hypothesis that autistic children prefer proximal (touch, taste) to distal (sight, hearing) sensory modalities. Subjects (16 autistic children aged 11-20 years) were measured on simple response times with auditory, visual, and tactile stimulation. Findings indicated that both autistic and normal children responded most quickly to auditory stimuli and most slowly to tactile stimulation. It is suggested that rather than displaying differences in sensory receptor sensitivity, autistic children demonstrate developmental lag in this area. (From PA, 1981, 65 (2), Abstract No. 12921).

1024. Kootz, J., Marinelli, B., & Cohen, D. (1982). Modulation of response to environmental stimulation in autistic children. Journal of Autism and Developmental Disorders, 12, 185-193.

Autistic children's blood pressure, heart rate, peripheral blood flow (PBF), and peripheral vascular resistance (PVR) were measured during 3 types of tasks. Highly functioning autistic children had PBF measurements consistent with sensory intake during task performance and social interaction. The lower functioning children showed PBF patterns consistent with rejection of external sensory information. (From CDA, 1983, 57 (1-2). Abstract No. 746).

1025. Lovaas, O.I., Schreibman, L., Koegel, R., & Rehm, R. (1971). Selective responding by autistic children to multiple sensory input. Journal of Abnormal Psychology, 77 (3), 211-222.

Three groups of children (autistic, retarded, and normal) were reinforced for responding to a complex stimulus involving the simultaneous presentation of auditory, visual, and tactile cues. Once this discrimination was established, elements of the complex were presented separately to assess which aspects of the complex stimulus had acquired control over the child's behavior. It was found that: (1) the autistics responded primarily to only one of the cues; the normals responded uniformly to all three cues; and the retardates functioned between two extremes. (2) conditions could be arranged such that a cue which had remained nonfunctional when presented in association with other cues could be established as functional when trained separately. The data failed to support notions that any one sense modality is impaired in autistic children. Rather, when presented with a stimulus complex, their attention was overselective. The findings were related to the literature on selective attention. Since much learning involves contiguous or near-contiguous pairing of two or more stimuli, failure to respond to one of the stimuli might be an important factor in the development of autism. (From LLBA, 1972, 6 (1), Abstract No. 7201277).

1026. Lovaas, O.I., Litrownik, A., & Mann, R. (1971). Response latencies to auditory stimuli in autistic children engaged in self-stimulatory behavior. Behavior Research and Therapy, 9 (1), 39-49.

Three groups of children (mute autistics, autistics with echolalic speech, and normals) were studied under two conditions (while the children were engaged in self-stimulation vs. free from self-stimulatory behavior). The children were trained to approach a dispenser, for candy reinforcement, at the sound of a tone. The time interval between the onset of the tone and Ss approach was labelled his response latency. It was found that (1) the presence of self-stimulatory behavior was associated with increased response latencies for the mute autistics; (2) the response latencies of the latter group decreased as Ss received increased training in responding to auditory stimulus; (3) the amount of self-stimulatory behavior varied with the magnitude of reinforcement for other behavior; and (4) in a preliminary way, some control over the response latencies by experimentally manipulating the amount of self-stimulatory behavior was obtained. The data were conceptualized in terms of competing reinforcers. (From LLBA, 1972, 6 (1), Abstract No. 7201273).

1027. Lovaas, O.I. & Schreibman, L. (1971). Stimulus overselectivity of autistic children in a two stimulus situation. Behavior Research and Therapy, 9 (4), 305-310.

Autistic and normal children were trained to respond to a complex stimulus involving an auditory component (white noise) and a visual component (red floodlight). After Ss had acquired this discrimination, the individual components were presented singly to assess their control over Ss' behavior. The autistic Ss unlike the normals, demonstrated stimulus overselectivity in that seven out of nine Ss responded to only one of the components. These results were consistent with those of a previous study where autistics showed stimulus overselectivity in an experiment involving three modalities. In both experiments, the previously non-functional stimulus was made functional when trained separately. (From LLBA, 6 (1), Abstract No. 7202992).

1028. Lovaas, O.I., et al. (1979). Stimulus overselectivity in autism: A review of research. Psychological Bulletin, 86 (6), 1236-1254.

The article reviews a series of investigations which suggest that autistic children show "stimulus overselectivity," a response to only a limited number of cues in their environment, and discusses how such overselectivity may relate to several of the behavioral deficits in autism. These include failure to develop normal language or social behavior, failure to generalize newly acquired behavior to new stimulus situations, failure to learn from traditional teaching techniques that use prompts, and a general difficulty in learning new behaviors. The discussion is followed by the presentation of several studies that suggest possible remedial procedures. Finally, the concept of stimulus overselectivity is related to the literature on other theories of attentional or response deficits in adult schizophrenia, mental retardation, learning disabilities, and autism. (From ECEA, 1982, 14 (2), Abstract No. 141394).

1029. Luiselli, J.K., & Donellon, S. (1980). Use of a visual stimulus fading procedure to teach color naming to an autistic child. Journal of Behavior Therapy & Experimental Psychiatry, 11 (1), 73-76.

Discusses the use of a stimulus colour fading technique in teaching an eight-year-old autistic male's learning of colour names. Results indicated correct responding and generalization. (From PA, 1981, 66 (1), Abstract No. 1805).

1030. Maier, W.J. (1970). Sensory deprivation therapy of an autistic boy. American Journal of Psychotherapy, 24 (2), 228-245.

The course of therapy of an autistic boy in a milieu of sensory restriction is described. The therapy was of an experimental nature and was carried out in a regular hospital room that was altered to provide a marked diminution of sensory stimulation. The procedure lasted 74 days and resulted in significant improvement of the boy's ability to relate to other people and adapt to his environment. The successful completion of this procedure required the coordinated efforts of the staff in all levels. Maintenance of good communication and positive staff relationships was imperative. (From LLBA. 1970, 4 (2), Abstract No. D02921).

1031. Metz, J.R. (1967). Stimulation level preferences of autistic children. Journal of Abnormal Psychology, 72 (6), 529-535.

Ten autistic, 10 schizophrenic, and 10 outstandingly successful children operated a lever controlling the volume of tape-recorded sound, in a laboratory study designed to follow up clinical reports of abnormal responsiveness to auditory stimulation in autistic children. Results indicated (p less than .05) that, as compared with controls, autistic children selected higher volume settings, while schizophrenic children were more variable in their volume settings. In a separate study of 30 normal children aged four, five, and eight, older children selected higher settings than younger ones. Results support clinical observations of altered responsiveness to sound level in autistic children, and suggest that such children prefer, and will act to maintain, higher than normal levels of stimulation. (From ECEA, 1971, 2 (4), Abstract No. 002038).

1032. McArthur, M.M. (1975). The selective responding of autistic children to the visual dimensions of a visual-auditory stimuls. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Ss given discrimination training with both auditory and visual stimuli simultaneously did not selectively attend to the visual stimulus as predicted. (From ECEA, 1977, 9 (2), Abstract No. 097633).

1033. Neumann, C.J., & Hill, S.D. (1978). Self-recognition and stimulus preference in autistic children. Developmental Psychobiology, 11, 571-578.

Seven autistic children were compared to a group of normal infants at the age of self-recognition. Using a videotape "mirror image" and an objective self-recognition criterion, 6 of the 7 autistic children exhibited self-recognition. In a 2-choice preference situation, autistic children tended to prefer the more predictable mirror image to a previously taped film of self. (From CDA, 53 (3-4), Abstract No. 588).

1034. Neuman, A.J. (1975). Directiveness and compliance behavior in a preschool autistic-like child. Research and the Retarded, 2 (2), 15-24.

Reports on the use of verbal directives in the treatment of a five-year-old autistic male. Results comparing single vs. repeated methods of directives indicated that over 75% of all compliance behaviors were emited after a single directive. (From PA, 1977, 58 (1), Abstract No. 3862).

1035. O'Connor, N., & Hermelin, B. (1963). Sensory dominance in autistic children and subnormal controls. Perceptual and Motor Skills, 16, 920.

Differences in response to sensory stimuli were found, such that inability to inhibit dominant behavior patterns rather than ability to acquire new ones was thought to distinguish psychotic children. (From CDA, 1964, 38 (5-6), Abstract No. 874).

1036. O'Connor, N., et al. (1965). Sensory dominance in autistic imbecile children and controls. Archives of General Psychiatry, 12, 99-103.

1037. Ornitz, E.M. (1974). The modulation of sensory input and motor output in autistic children. Journal of Autism and Childhood Schizophrenia, 4 (3), 197-215.

An examination of the possible pathophysiological mechanisms which might underlie the usual motility disturbances which occur in autistic children. These motor behaviors are in some way related to the faulty modulation of sensory input which is also a significant feature of the autistic syndrome. Psychological experiments have revealed that autistic children learn through manipulation and position cues rather than through normal perceptual processes. It is therefore suggested that spontaneous abnormal motility may be the autistic child's way of making sense out of both exogenous and endogenous sensations through kinesthetic (sensorimotor) feedback. Experimental demonstrations of a deficient oculomotor response to vestibular and visual stimulation parallel clinical observations of the hypomotility also seen in response to sensory stimulation. Review of the neurophysiology of the vestibular system reveals that the vestibular nuclei modulate motor output at the time of sensory input and sensory input at the time of motor output. It is suggested that a dysfunction of the central connections of the vestibular system with the cerebellum and the brain stem may be responsible for the strange sensorimotor behavior observed in autistic children and may also have implications for the understanding of the vannear in which autistic children learn, since clinical studies point toward a strong motor component to their perceptual processes. (From LLBA, 1975, 9 (1), Abstract No. 7504189).

1038. Oxman, J. et al. (1978). Condon's multiple-response phenomenon in severely dysfunctional children: an attempt at replication. Journal of Autism and Childhood Schizophrenia, 8 (4), 395-402.

The study involving three autistic and two normal children (5 to 12 years old), was conducted to replicate the findings of W. Condon on multiple entrainment (double responding) and dyssynchronous (awkward) behavioral organization in autistic children. Ss were filmed while being presented with five discrete auditory stimuli. Microkinesic analyses of the children's motor responses were performed in relation to three hypotheses designed to support the double response and dyssynchrony effects. No firm evidence of multiple responding to single sound was found for the autistic or normal children. There was some indication of dyssynchronous response organization for the autistic children, in comparison to the smooth flowing body movements of the normal children. (From ECEA, 1979, 11 (2), Abstract No. 112847).

1039. Reynolds, B.S., Crighton, D.N. & Lovaas, O.I. (1974). Auditory overselectivity in autistic children. Journal of Abnormal Child Psychology, 2 (4), 253.

1040. Rincover, A. (1978). Variables affecting stimulus fading and discriminative responding in psychotic children. Journal of Abnormal Psychology, 87 (5), 541-553.

1041. Rincover, A. (1979, June). The nature and importance of stimulus control deficits in autistic children. Paper presented in symposium on "Current Research with Autistic Children" at Association for Behavior Analysis, Dearborn MI.

To assess whether over selectivity is a generalized problem in a given autistic child, eight over selective children were identified and then tested to determine whether they would respond over selectively across a wide variety of tasks. Data suggested that autistic children sometimes respond to multiple features and sometimes they respond over selectively. Preliminary studies also suggested that the relative location of cues strongly influences stimulus control. It was suggested that a training program for autistic children should include a set of target behaviors designed to promote responding to stimuli separated in space. Drawings of stimulus materials and graphs showing response data are included. (From ECEA, 1980, 12 (1), Abstract No. 120686).

1042. Sailor, W. & Taman, T. (1972). Stimulus factors in the training of prepositional usage in three autistic children. Journal of Applied Behavior Analysis, 5 (2), 183-190.

Language deficient, autistic children were trained to use the prepositions "in" and "on." Three Ss were exposed to conditions of training that differed in the method of employment of stimulus objects used to train prepositional usage. Two Ss were trained first with "ambiguous" stimuli, that is, the same stimulus objects were used for training both prepositions. The two Ss were then switched to a training condition with "nonambiguous" stimulus objects, that is, objects used for training "in" were different from those used for training "on." The two Ss were then switched to the ambiguous stimulus condition and finally returned again to training with non-ambiguous stimuli (four conditions). A third S began with training on non-ambiguous stimuli, was switched to an ambiguous condition, and was then switched back to non-ambiguous stimuli (three conditions). The results for two of the three Ss indicated that accurate usage of the two prepositions was obtained only under training conditions with non-ambiguous stimuli. Results for the third S suggested that initial training with non-ambiguous stimuli might enhance subsequent accurate responding with ambiguous stimuli. (From LLBA,1972, 6 (2), Abstract No. 7206703).

1043. Schover, L.R., & Newson, C. (1976). Overselectivity, developmental level, and overtraining in autistic and normal children. Journal of Abnormal Child Psychology, 4 (3), 289.

1044. Schreibman, L., & Lovaas, O.I. (1973). Overselective response to social stimuli by autistic children. Journal of Abnormal Child Psychology,1(2), 152-168.

The investigation sought to determine if stimulus overselectivity might be a possible basis for the deviant social behavior in autistic children. Seven autistic and five normal children (ages 5 to 11 years) were trained to discriminate between clothed girl and boy doll figures. After the children had acquired the discrimination, the individual clothing components and the heads were systematically interchanged between the figures. Thus, it could be determined which component(s) the children had used to make the discrimination. The autistic children demonstrated stimulus overselectivity in that they formed the discrimination between the boy and girl figures on the basis of only one component or peculiar combinations of components. For example, one child discriminated the figures on the basis of shoes. In contrast, the normal children responded primarily to the figure's heads but could also respond correctly to othe parts. The findings are consistent with previous research on stimulus overselectivity and have implications for understanding the difficulty autistic children show in forming meaningful social relationships. (From ECEA, 1974, 6 (1), Abstract No. 060178).

1045. Schreibman, L. (1975). Effects of within-stimulus and extra-stimulus on discrimination learning in autistic children. Journal of Applied Behavior Analysis, 8 (1), 91-112.

Compared prompting procedures utilized to develop visual and auditory discriminations. Findings are discussed with relation to the viability of using such procedures. (From PA, 1975, 54 (1), Abstract No. 3348).

1046. Schreibman, L. et al. (1977). Reducing stimulus overselectivity in autistic children. Journal of Abnormal Child Psychology, 5 (4). 425-436.

The present investigation was conducted to determine if stimulus overselectivity in 19 autistic children (5 to 12 years old) is changed as a function of repeated exposure to testing. (From CIJE, 1978, Abstract No. EJ181554).

1047. Schreibman, L., & Charlop, M.H. (1981). S+ versus S- fading in prompting procedures with autistic children. Journal of Experimental Child Psychology, 31 (3), 508-520.

Results indicated that, for all but one of eight autistic children, visual discriminations were acquired significantly faster, with fewer errors, when the S+ stimulus was faded first. These findings are related to the literature on the effects of stimulus novelty on selection and learning. (From CIJE, 1981, Abstract No. EJ246143).

1048. Sherman, J.W., & Webster, C.D. (1974). The effects of stimulus-fading on acquisition of a visual position discrimination in autistic, retarded, and normal children. Journal of Autism and Childhood Schizophrenia, 4 (4), 301-312.

Trial-and-error training on a visual position - discrimination task was given to eight autistic children (mean age 6.4-years-old), eight retarded children (mean age 7-years-old), and eight children of approximately normal intelligence (mean age 7.4-years-old).Ss received a stimulus-fading program (exposure to varying visual stimuli presented in a 60-slide series) designed to teach the discrimination. Normal-IQ Ss performed best on the program, followed by retarded and autistic Ss.

Statistical analysis revealed that the autistic and retarded groups did not differ in performance. A significant finding was that the fading program can be used effectively to teach autistic children. (From ECEA, 1975, _7_ (3), Abstract No. 072105).

1049. Wilhelm, H., & Lovaas, O.I. (1976). Stimulus overselectivity: A common feature in autism and mental retardation. _American Journal of Mental Deficiency_, _81_(1), 26-31.

1050. Handleman, J.S. (1977). Generalization of learned behaviors with severely disabled children. University Microfilms International, P.O. Box 1346, Ann Arbor MI, 48106.

Three of four autistic children demonstrated greater transfer of training to the home setting when verbal responses to common questions were trained at different locations of the school as compared with training in a school cubicle. (From ECEA, 1979, 10 (4), Abstract No. 104274).

1051. Handleman, J.S. (1979). Generalization by autistic-type children of verbal responses across settings. Journal of Applied Behavior Analysis, 12 (2), 273-282.

Generalization of verbal behavior by four autistic-type children (six to seven years old) across physically different settings was assessed. Ss learned responses to common questions in two settings at school and were probed to determine transfer of learning to home. (From CIJE, 1980, Abstract No. EJ212521).

1052. Handleman, J.S., & Harris, S.L. (1980). Generalization from school to home with autistic children. Journal of Autism and Developmental Disorders, 10, 323-333.

Three youngsters were taught responses to common questions in 2 school settings and were probed to determine transfer of learning to their homes. All children demonstrated greater generalization when they received training at varied locations as opposed to instruction in a single setting.(From CDA, 1981, 55 (1-2), Abstract No. 79).

1053. Hundert, J. (1981). Stimulus generalization after training in an autistic deaf boy in manual signs. Education and Treatment of Children, 4, 329-337.

It was found that multiple-stimulus training produced slower learning but greater generalization of signing than single-stimulus training. (From CDA, 1982, 56 (5-6), Abstract No. 2229).

1054. Hung, D.W. (1977). Generalization of "curiosity" questioning behavior in autistic children. Journal of Behavior Therapy & Experimental Psychiatry, 8 (3), 237-245.

Discussed the use of token reinforcement in teaching four autistic children (aged 8-10 years) question-asking behavior. Results indicated reinforcement conditions, and implications for generalization of training autistic children is discussed. (From PA, 1978, 62, Abstract No. 12178).

1055. Hung, D.W. (1980). Training and generalization of yes and no demands in two autistic children. Journal of Autism and Developmental Disorders, 10, 139-152.

The study demonstrated that the systematic modeling and reinforcement procedure was effective in training 2 useful demands for the autistic children, and that after such training the behavior may then generalize to new items without additional training. (From CDA, 55 (3-4), Abstract No. 1069).

1056. Koegel, R.L., & Rincover, A. (1976). Some detrimental effects of using extra stimuli to guide learning in normal and autistic children. Journal of Abnormal Child Psychology, 4 (1), 59-71.

Assessed was the effectiveness of using prompts (extra "guiding" stimuli) for teaching 16 normal (6 to 9 years old) and 8 autistic children (7 to 12 years old). (From CIJE, 1977, Abstract No. EJ1623060).

1057. Koegel, R.L., & Rincover, A. (1977). Research on the differences between generalization and maintenance in extra-therapy responding. Journal of Applied Behavior Analysis, 10 (1), 1-12.

To test reports that the development of programs for producing durable extra-therapy responding lags behind the development of programs for producing initial behavior change, responding was recorded continuously in both the therapy and extra-therapy settings for three autistic males (7 to 11 years old). (From CIJE, 1978, Abstract No. EJ164297).

1058. Koegel, R.L., et al. (1980). Behavioral contrast and generalization across settings in the treatment of autistic children. Journal of Experimental Child Psychology, 30 (3), 422-437.

Investigated whether (1) a highly discriminable treatment procedure in one setting would produce a behavioral contrast effect in unmanipulated settings, and whether (2) such contrast-like trends could be eliminated if initially different reinforcement procedures in two settings were subsequently made similar. (From CIJE, 1981, Abstract No. EJ239180).

1059. Nelson, D., Gergenti, E., & Hollander, A. (1980). Extra prompts versus no extra prompts in self-care training of autistic children and adolescents. Journal of Autism and Developmental Disorders, 10, 311-321.

A color-coded "extra prompt" procedure was compared to a "no extra prompt" procedure in teaching autistic children and adolescents how to lace shoes. Analyses suggest that subjects who first learned under the color-coded, extra prompt condition encountered difficulty in transferring their newly acquired skill to the naturalistic, non-color-coded condition, whereas subjects who learned initially without the extra prompts had little difficulty with the subsequent color-coded condition. (From CDA, 1981, 55 (1-2), Abstract No. 440).

1060. Rincover, A., & Koegel, R.L. (1975). Setting generality and stimulus control in autistic children. Journal of Applied Behavior Analysis, 8 (3), 235-246.

A two-part study of 10 autistic children (mean age 10.5 years) was designed to assess the transfer of treatment gains across settings. In the first phase, each S learned a new behavior in a treatment room, and transfer to a novel extratherapy setting was assessed. Each of the four Ss who showed no transfer responded correctly in the extratherapy setting when the stimulus that was functional during training was identified and introduced. Results indicated that the Ss who failed to transfer in phase 1 were selectively responding to an incidental stimulus during the original training in the treatment room. Evidence suggested an extreme overselectivity in autistic children which should be considered by the therapist teaching new stimulus response behavior. (From ECEA, 1976, 7 (4), Abstract No. 073587).

1061. Schreibman, L., Chalop, M., & Koegel, R. (1982). Teaching autistic children to use extra-stimulus prompts. Journal of Experimental Child Psycholgy, 33, 475-491.

Autistic children who could learn a complex visual discrimination by either trial and error or an extra-stimulus prompt fading procedure were taught to respond to two cues through a multiple-cue training procedure and subsequently were tested to determine if they could now utilize a pointing prompt. While the children initially did not transfer from an extra-stimulus (pointing) prompt, they did so subsequent to multiple-cue training. (From CDA, 1983, 57 (1-2), Abstract No. 768).

1062. Albin, R.S. (1980). Autistic children learn to relax. Psychology Today, 13, p. 36.

1063. Almond, P. et al. (1979). Mainstreaming: A model for including elementary students in the severely handicapped classroom. Teaching Exceptional Children, 11 (4), 135-139.

Using the concepts of normalization, mainstreaming, and individualized instruction, a big brother/sister program was developed in which 16 severely handicapped autistic children (4 to 15 years old) were tutored by nonhandicapped and educable mentally retarded elementary students. After receiving instruction on interaction skills, volunteers signed contracts specifying responsibilities, and followed the basic sequence of instruction with teacher feedback. Among the results of the program were increased understanding and acceptance of the autistic Ss and improved preacademic skills of the autistic Ss. (From ECEA, 1980, 11 (4), Abstract No. 114943).

1064. Bartak, L. & Rutter, M. (1973). Special educational treatment of autistic children: A comparative study-I. Design of study and characteristics of units. Journal of Child Psychology and Psychiatry and Allied Disciplines, 14 (3), 161-179.

The first part of a two part comparative study. Autistic children attending three different special units were followed up over a three and a half to four year period to assess changes in educational, cognitive, linguistic, social, and behavioral status. The programs of the units varied in the amount of structure and orientation to educational goals. Details of study design, methods used, and results of an objective examination of staff behavior in the three units are described. It was possible to demonstrate significant differences in the amount and character of staff interactions with children both between units and between individual staff. (From LLBA, 1974, 8 (1), Abstract No. 7401750).

1065. Bauer, J.R. (1972/73). The "therapy" in educational therapy. Academic Therapy, 8 (2), 199-205.

A discussion of public school-based management of severely dysfunctional autistic-like children, ages five to eleven, through case coordination, using educational therapists as change-agents to ensure steady supply of habilitative services. These consist of teaching strategies to: (1)

secure focal attention; (2) enhance perceptual sorting, motor channeling, storage and retrieval techniques, and cognitive structuring; and (3) provide for more effective self-differentiation and reality testing. Using this approach, students showed improvement in ego functions, demonstrated by greater learning and social skills. (From LLBA, 1973, 7 (1), Abstract No. 7302854).

1066. Boettcher, W.D., et al. (1979). Autism: Assessment of Needs Within Heartland Education Agency: A Study Committee Report. Heartland Education Agency, Ankeny, Iowa.

The educational needs of 73 children who exhibited characteristics associated with autism were studied. Ss were children clinically diagnosed as autistic and having severe communication and behavior disorders. Trained observers completed behavioral observations, teacher interviews, student record reviews, and behavior and language questionnaires. Twenty-seven Ss were judged autistic without reservation. Eleven were judged autistic with reservation, 10 were judged nonautistic with reservation, and 25 were judged nonautistic. For each child the observers further determined the most appropriate program delivery option and support services, the need for a data based behavior program, and communication level. The distribution by age, country of residence, and communication level. The distribution by age, county of residence, and communication level suggested the need for five self contained categorical classes (or equivalent programming) for autistic students. Inservice recommendations were also made.(From ECEA, 1980, 12 (4), Abstract No. 124169).

1067. Bradfield, R.H. (1977). Evaluation of Educational Plans for Autistic Children. San Francisco State University, C.A., School of Education.

Evaluated were programs serving 43 children in 11 elementary classes for autistic children in California. Children were videotaped in three instructional settings: interaction with peers, interaction with adult, and a language sample session. Behavioral observations were completed on each child; records were examined for pertinent diagnostic data and individual educational plans; and personnel were interviewed regarding program philosophy. Observational data resulted in approximately one fifth of the children being judged as "not autistic." Serious deficiencies were found in the availability and relevance of diagnostic data. Program philosophy tended to be heavily behavioral. Recommendations included establishing diagnostic criteria for determination of autism and including precise, measurable educational objectives in the individual educational plans. (From ECEA, 1979, 10 (4), Abstract No. 103468).

1068. Brown, G.E. et al. (1977). From self-stimulation to prevocational training: A total program for autistic children. Office of Education (DHEW), Washington, DC.

Described is an eclectic program for teaching language and prevocational skills to severely developmentally delayed children. Included are an introduction, a language flow chart, and sections providing behavioral objectives in the following areas: developmental receptive language objectives, developmental expressive language objectives, an articulation program, signing objectives, and considerations for a prevocational program for autistic students. Approximately half of the document consists of a prevocational skills checklist. (From ECEA, 1978, 10 (1), Abstract No. 100751).

1069. Bruno, B. (1974). Progressive relaxation training for children: A guide for parents and teachers. Special Children, 1 (2), 31-43.

A teacher of young school-age handicapped children describes her use of progressive relaxation training with an autistic boy over a 3-year period. Discussed in detail are such topics as the relaxation exercises, the tight arm-hand behavior which signaled growing tensions in the boy, and the teacher's role in cueing times at which relaxation was appropriate and in assisting the relaxation program by maintaining eye contact throughout. It is reported that during the 3 years the student continued to improve his verbal expression and to increase his functional speech while decreasing the patterns of the tight arm-hand motions. (From ECEA, 1975, 7 (1), Abstract No. 070317).

1070. Carter, R.D., & Poeschel, S.M. (1974). Programming severely disturbed youngsters in a public school. SALT: School Applications of Learning Theory, 6 (3), 39042.

Reports on a program designed to individually program and instruct autistic and schizophrenic children utilizing behavior modification techniques. (From PA, 1975, 53 (1), Abstract No. 1966).

1071. Csapo, M. & Gittins, W. (1980). Characteristics of educational programs for autistic children in British Columbia. B.C. Journal of Special Education, 4 (1), 29-41.

The article reports on a British Columbia (Canada) survey to collect information on pupil, teacher, and program characteristics of classes for children with infantile autism, childhood schizophrenia, childhood psychoses, and severe language deficits. Findings on pupil characteristics are presented in terms of number and sex distribution, age, diagnostic classification, category of diagnostician, previous placement, communication skills, and educational prognosis. Findings on teacher characteristics are presented in terms of professional preparation, length of teaching experience, and type of special preparation. Findings on program characteristics are presented in terms of persons involved in setting educational objectives, types of curricular objectives, frequency of evaluation of pupil progress, evalutation of program effectiveness, persons involved in program evaluation, types of supportive services, type of assistance in the classroom, parent education programs, existence of autistic children in the district outside the program, and suggestions for program improvement. Some recommendations are made based on the survey findings.(From ECEA, 1980, 12 (4), Abstract No. 124718).

1072. Donnellan-Walsh, A. (1976). The Donnellan-Walsh Syndrome. Exceptional Parent, 6 (6), 22-25.

An educator describes a syndrome affecting professionals involved with autistic children. She explains that symptoms are "guruitis," a rigid belief in one's methods; "pioneeritis," a feeling of having discovered the only effective program techniques; and a cultism which prevents open discussion and information exchange. (From ECEA, 1977, 9 (3), Abstract No. 092130).

1073. Dunlap, G. et al. (1979). Autistic children in school. Exceptional Children, 45 (7), 552-558.

The article discusses the education of autistic children in schools. A brief description of autism is presented, along with evidence documenting the educability of autistic children in heterogeneous groups (i.e., in a mainstreamed setting). Some issues related to autistic children's classroom behavior are described, including destructive behavior, self stimulation, motivation, stimulus overselectivity, and generaliztion and maintenance of classroom gains. The means by which teachers and administrators can equip themselves for successful experiences in teaching such children are also discussed. (From ECEA, 1980, 11 (4), Abstract No. 114621).

1074. Fenichel, C. (1974). Special education as the basic therapeutic tool in treatment of severely disturbed children. *Journal of Autism and Childhood Schizophrenia*, *4* (2), 177-186.

Presents a description of a special education program designed to provide individualized treatment for children diagnosed as autistic, schizophrenic, or psychotic. Short- and long-term goals aimed at academic and vocational development are discussed. Primary emphasis is given to CNS dysfunction rather than parental factors as causal agents. (From PA, 1976, *56* (2), Abstract No. 10743).

1075. Feuser, G. (1976). Teaching children with autistic syndrome in a special school for trainable mentally retarded. (Germ). *Praxis der Kinderpsychologie und kinderpsychiatrie*, *25* (2), 57-67.

Describes a program for autistic children with severe early infantile autism and in some cases, with brain damage. Over a four-year period, autistic children were educated in a school for the trainable mentally retarded, emphasizing nondirective therapy, play therapy, and individualized behavior therapy. (From PA, 1976, *65* (1), Abstract No. 4158).

1076. Fischer, I., & Glanville, B. (1970). Programmed teaching of autistic children. *Archives of General Psychiatry*, *23* (1), 90-94.

The academic progress of 14 autistic children over a period of one year was described. The rate of progress within the group varied considerably. A majority of the group (11) completed, on average, 10% of a specially developed programmed course but three children made much faster progress. The implications of these results for long-term planning of services for autistic children were discussed. (From LLBA, 1970, *4* (2), Abstract No. D03596).

1077. Forness, S.R. (1974). Educational approaches to autism. *The Training School Bulletin*, *71* (3), 167-172.

Considerable similarities exist in the educational needs of autistic and mentally retarded children, and there are current attempts to group such children together in school classrooms. The characteristic educational features of childhood autism as well as research on school programs for autistic children including behavior modification approaches are reviewed. Areas common to both types of children are discussed. (From LLBA, 1975, *9* (1), Abstract No. 7504239).

1078. Foster, R.E. (1980). Burnout among teachers of severely handicapped, autistic children. Pointer, 24 (2), 24-28.

Four stages of teacher burnout (survival, transition, creativity, and burnout) are considered, and a strategy of personal growth for teachers of severely handicapped, autistic children is suggested. (From ECEA, 1980, 12 (4), Abstract No 124060).

1079. Frankel, F. & Graham, V. (1976). Systematic observation of classroom behavior of retarded and autistic preschool children. American Journal of Mental Deficiency, 81 (1), 73-84.

Two groups of 6 children, previously diagnosed as autistic and mentally retarded, were observed for seven 30-minute sessions. The following environmental parameters were manipulated: teacher-to-child ratio, presence of food reinforcement, and skill area being presented. Three classes of behavior were observed: (1) adaptive performance (% response and % correct), (2) attention, (3) maladaptive behavior. Results suggested that (A) food reinforcement & the 1:1 teacher/child ratio may not generally enhance adaptive performance but may have an effect upon attention and tantrum behavior, (B) attention to task is more predictive of adaptive behavior than attention to teacher, & (C) interactions were generally lacking between above parameters & diagnostic group, while functioning level did not show interactions. Results support individual assessment of autistic and retarded behaviors. Procedures used, if coupled with statistical analysis for individual Ss, may provide educational prescriptions for individual children. (From LLBA, 14 (3), Abstract No. 8004141).

1080. Freschi, D.F. (1974). Where we are, where we are going. How we're getting there. Teaching Exceptional Children, 6 (2), 89-97.

Discussed are procedures for the charting of behavior changes to provide feedback for child and teacher which are reported to have been used at one school for autistic and neurologically impaired children. Sixteen samples of charting patterns and interpretive guidelines are provided. Discussed and presented are five charts dealing with number of sounds read correctly by a 10-year-old brain injured boy, number of socially helpful acts by a class of autistic and/or brain injured children, number of screams by an 8-year-old autistic girl, correct counting behaviors of a 12-year-old learning disabled boy, and addition skills in an autistic and deaf child, respectively. Charting is seen to allow for evaluation of intervention procedures. (From ECEA, 1974, 6 (1), Abstract No. 060920).

1081. Gallagher, J.J. & Wiegerink, R. (1976). Educational strategies for the autistic child. Journal of Autism and Childhood Schizophrenia, 6 (1), 15-26.

The etiology of autism is reviewed and various types of educational strategies for autistic children are discussed. Research findings are noted to indicate the need for educational environments in which there is controlled sensory input that is responsive to inter- and intraindividual differences. General educational principles for improving the development of autistic children are outlined which include reduction of extraneous stimuli, simultaneous presentation of stimuli, training based on strict developmental lines, minimal temporal disjuntion on memory tasks, and emphasis on kinesthetic and auditory dimensions in learning. (From ECEA, 1976, 8 (3), Abstract No. 082026).

1082. Gerardot, J.M., & Dossett, R. (1977). Autism: An approach to Learning. Physical Therapy, 57 (7), 814-820).

The literature on autism as a childhood disorder is briefly reviewed, and the approach used at a summer camp sponsored by the North Carolina Society for Autistic Children is described, including the operational structure, daily activities, and training techniques. Informal observations of the physical and psychomotor characteristics of the children are discussed, and a short case report is included. (From ECEA, 1978, 10, Abstract No. 100509).

1083. Grant, C.J. (1978). An ecological study of the interaction of children with autistic-like behavior and their assigned teachers. University Microfilms International, P.O. Box 1346, Ann Arbor, MI, 48106.

An asssessment of the naturally occurring classroom interactions of four pairs of children with autistic-like behaviors and their teachers was the focus of the study. Among findings was that the teachers all employed indirect behaviors (accepting, encouraging, etc.) and direct behaviors (lecturing, directing) in a ratio that suggested that they responded to the needs of the children and provided necessary structure to the classroom. (From ECEA, 1980, 12 (1), Abstract No. 121095).

1084. Halpern, W.I. (1970). The schooling of autistic children: Preliminary findings. American Journal of Orthopsychiatry, 40 (4), 665-671.

In 15 children under age seven years referred to the Day Treatment Unit of a child guidance clinic, partial or total failure in the use and compehension of verbal symbols was associated with the diagnosis of infantile autism and with mental deficiency or organic brain damage exhibiting autistic features. Since the disturbance in speech acquisition may derive from neural disorganization and the perception of a chaotic environment, what becomes crucial in remediation is the monitoring of verbal input and output through a well-structured language training program. Such an approach can be carried out with benefit in a specialized classroom setting. Early followup findings of autistic children enrolled in the Unit between 1964 and 1968 show 73% in public schools, a more promising result than has previously been thought possible. (From LLBA, 1970, 4 (2), Abstract No. D03788).

1085. Handelman, J.S. (1979). Program transition for autistic-type children. Journal for Special Educators, 15 (3), 273-279.

Preparation for mainstreaming autistic-like children is seen to focus on the current setting, the new setting, and the child. Chances for success are said to be enhanced by establishing a cooperative relationship before, during, and after the transition process. (From ECEA, 1980, 11 (4), Abstract No. 114923).

1086. Harper, J. (1969). Establishment of an educational programmed for a group of autistic children. Slow Learning Child: The Australian Journal on the Education of Backward Children, 6 (1), 3-14.

Describes a two-year group program educating autistic children consisting of three classes of four children each. Findings indicated that the group program assisted in the assessment of educational and motivational abilities. (From PA, 1970, 44 (2), Abstract No. 12943).

1087. Harris, S.L., & Handleman, J.S. (1980). Programming for generalization: Educating autistic children and their parents. Education and Treatment of Children, 3 (1), 51-63.

The article describes the procedures of the Douglas Developmental Disabilities Center to facilitate generalization of behavioral gains by autistic-like children (4 to 15 years old) through the manipulation of classroom organization, management procedures, staff ratio, curriculum, and parent involvement. The center provides three successive levels of training: entry, intermediate, and transition level classrooms. As the child advances from one level to the next there is a gradual reduction in the number of adults in the room, a decreased reliance upon primary reinforcement and punishment, an increased use of secondary reinforcement and verbal disapproval, and a shift from control of behavior problems and training in basics of speech to an emphasis on preacademic and academic skills. Of the 38 children who have been discharged from the program, 22 have graduated to less structured special education programs or regular classrooms, while the remainder were withdrawn or removed for various reasons. There are some data suggesting that a less handicapped group of children who were not admitted. The paper indicates that the development of procedures for the education of autistic children is an ongoing, not a completed process. (From ECEA, 1980, 12 (4), Abstract No. 124453).

1088. Hartley, S.T., & Salzwedel, K.D. (1980). Behavioral writing for an autistic-like child. Academic Therapy, 1 (1), 101-110.

The article presents the case study of an autistic 12-year-old boy who was taught to increase the quality and decrease the size of his written letters. (From CIJE, 1981, Abstract No. EJ234351).

1089. Hewett, F.M. (1966). The autistic child learns to read. Slow Learning Child: The Australian Journal on the Education of Backward Children, 13 (2), 107-120.

Discusses the use of reading programs based on operant conditioning principles in order to develop reading skills in verbal and nonverbal autistic children. (From PA, 1967, 41, Abstract No. 5013).

1090. Higgins, M. (1979). The Illinois Autism Study. Illinois State Office Education, Springfield. Dept. of Specialized Education Servies.

The document describes a study on autism in Illinois designed to review relevant legislation, conduct on site visits to a number of programs, collect information about prevalence rates, describe the existing system, identify service deficits and gaps, develop a model comprehensive continuum of services from conception through adulthood, and formulate a statement of actions necessary to implement the model. Chapters address the following topics (sample subtopics in parentheses): description of the population (historical overview, current theory on diagnosis and etiology, Illinois population, prevalence rates); current service system (characteristics of the system, the Department of Mental Health/Developmental Disabilities, the public education system, joint responsibilities); proposed continuum of services; prevention; preschool education (early identification, content of educational intervention, range of programs); education of the school age child (physical settings, educational programs and philosophy, personnel, teacher preparation, costs, staff ratio considerations and characteristics, assessment and curricula planning resources, parent involvement and counseling); residential programs; and the autism service center concept. Additional chapters cover a sample budget for providing a psychoeducational program for five autistic children, a summary of the autism study findings, a summary of Title XX provisions, a chart with legislative information, a copy of the autism bill of rights, and a list of references. (From ECEA, 1980, 12 (3), Abstract No. 122983).

1091. Hirai, N. (1975). Psychotherapy and education for autistic children. Hiroshima Formum for Psychology, 2, 43-48.

Describes a program designed primarily to support and provide services to parents of autistic children-ultimately thought to benefit the child. (From PA, 1980, 64 (1), Abstract No. 1732).

1092. Hudson, E., & DeMyer, M.K. (1968). Food as a reinforcer in educational therapy of autistic children. Behavior Research and Therapy, 6 (1), 47-43.

Reports results of a craft program designed to shape communicative speech and craft skills in autistic children. Reinforcement (food) was given for gradual approximations to desired behaviors. Results indicated no generalization of acquired skills. (From PA, 1968, 42 (2), Abstract No. 15569).

1093. Hung, D.W., & Thelander, M.J. (1978). Summer camp treatment program for autistic children. Exceptional Children, 44 (7), 534-536.

A short term residential summer camp treatment program provided for 18 autistic children, 15 boys and 3 girls (5 to 13 years old), was seen to be successful by the camp staff and parents. (From, ECEA, 1979, 11, Abstract No. 110113).

1094. Kaiser, M. (1976). Alternative to therapy: Garden program. Journal of Clinical Child Psychology, 5 (2), 21-24.

Describes the utilization of a gardening program for emotionally disturbed, autistic, and mentally retarded children. Results in terms of social-emotional growth are discussed. (From PA, 1979, 62 (1), Abstract No. 2288).

1095. Kelly, D. (1979). The Developmental Centre-Lord Tennyson Elementary School, Vancouver B.C. B.C. Journal of Special Education, 3 (4), 419-423.

The reorganization of the Developmental Centre program at the Lord Tennyson Elementary School in Vancouver, British Columbia is described. The Centre now provides an integrated program in a large open area of enrichment for gifted students learning assistance to students in regular classes, special class instruction for various behavioral/ emotional/learning disabilities, and special component of services to 18 autistic children (some of whom are separated to lower stimulation). The component for autistic children is described in terms of the referral procedure, staffing and consultant services, organization, program development, integration, and parent involvement. The reorganization of the program and integration of all the services is seen to have such advantages as centralizing materials and resources and better utilization of staff expertise. (From ECEA, 1980, 12 (3), Abstract No. 123623).

1096. Kobler, R. & Kobler, E. (1971, June). Technological/academic approach to the treatment of autism. Speech given to the National Society for Autistic Children, Nashville, Tennessee.

Described is a technological/academic approach to the educational therapy of an autistic child that begins with a theory of thinking and problem postulation and a theory of cognitive and personality development. The theory of thinking and problem postulation is said to be based on the unique characteristic of the human being, the art of being able to ask a question. The ability to ask a question is then explained to involve two 1's, the 1 that the individual is before asking the question, and the 1 that the individual is while seeking information outside the former 1. The theory is compared to the dynamics of the Hegelian dialectic. Personality development is described as the ability of the two 1's to carry on dialogues with each other and to be consciously schizophrenic. Learning is then said to involve a similar inner dialogue. It is postulated that the autistic child has lost the ability to conduct an inner dialogue and therefore, has lost the ability to learn and to converse with others. A case study of a young boy under the age of 5 years is cited in some depth to illustrate the technological/academic approach in which the child is given the opportunity to ask a tactile question of talking typewriter. At first the child just looks, listens, and touches the typewriter, but eventually the machine motivates the child to talk and to give a tactile answer. (From, ECEA, 1972, 4 (2), Abstract No. 040891).

1097. Koegel, R.L., & Rincover, A. (1974). Treatment of psychotic children in a classroom environment: I, Learning in a large group. Journal of Applied Behavioral Analysis, 7 (1), 45-59.

Investigated was the feasibility of modifying the behavior of eight autistic children in a classroom environment. In the first experiment, the children (mean age 7 years) were taught certain basic classroom behaviors (including attending to the teacher upon command, imitation, and an elementary speaking and recognition vocabulary) that were assumed to be necessary for subsequent learning to take place in the classroom. Based on research documenting the effectiveness of one-to-one (teacher-child ratio) procedures for modifying such behaviors, these behaviors were taught in one-to-one sessions. It was, however, found that behaviors taught in a one-to-one setting were not performed consistently in a classroom-sized group, or even in a group as small as two children with one teacher. Further, the children evidenced no acquisition of new behaviors in a classroom environment over a 4-week period. Therefore, Experiment II introduced a treatment procedure based upon "fading in" the classroom stimulus situation from the one-to-one stimulus situation. Such treatment was highly effective in producing both a transfer in stimulus control and the acquisition of new behaviors in a kindergarten/first-grade classroom environment. (From ECEA, 1974, 6 (3), Abstract No. 061880).

1098. Koegel, R.L., Russo, D.C., & Rincover, A. (1977). Assessing and training teachers in the generalized use of behavior modification with autistic children. Journal of Applied Behavior Analysis, 10, 197-205.

The behavior of 11 teachers and 12 autistic children was recorded in a series of different teaching situations. Among the results: systematic improvement in the child's behavior did not occur unless the teacher working in that session had been trained to use the techniques to a high criterion; all teachers were rapidly trained to use these techniques. (From CDA, 1978, 52 (1-2), Abstract No. 432).

1099. Lettick, A. (1973). On structuring a lesson. Journal of Learning Disabilities, 6 (1), 10-15.

The needs of seriously handicapped brain damaged and autistic children require that a teacher provide a highly structured lesson and environment. Many basic factors which contribute to a well structured lesson are frequently overlooked. Elements which contribute to a well organized lesson and the factors which might mitigate against a good lesson are pointed out. Less handicapped children could benefit from a modification of the same structuring procedures, adapted to their levels of disability and strengths. (From LLBA, 1973, 7 (2), Abstract No. 7305926).

1100. Liberty, K.A. (1977). An investigation of two methods of achieving compliance with the severely handicapped in a classroom setting. University Microfilms International, P.O. Box 1346, Ann Arbor MI 48106.

Among findings of the study of six Ss, three severely retarded and three autistic, (ages 6 to 10 years), was that all day contingencies for compliance produced increased levels and predictability of compliance and reduction in stereotyped behavior in both experiments. (From ECEA, 1979, 11, Abstract No. 113203).

1101. Lowrance, L. et al. (1976, April). A comprehensive program for autistic children. Paper presented at the Annual International Convention, the Council for Exceptional Children, Chicago, Illinois.

The Memphis Tennessee City Schools Program for Autistic Children offers a comprehensive program that includes a day school and a residential training center with emphasis on language training. The primary objective of the day school is establishing and maintaining behavioral control through operant conditioning techniques. Other aspects of the day school include socialization and academic training at three levels: the lowest level with children whose academic and behavioral skills are most deficient; the middle level, made up of children whose most disruptive behaviors are under control; and the highest level, with students whose next step would be inclusion into the educational mainstream. The residential training center provides service in four major areas: full service care (3-6 months of training in the full complement of skill areas offered); hot spot care (service in fewer than five skill areas, most frequently in dressing and eating); respite care (up to 2 weeks of behavior control to give relief to parents); and crisis intervention (provided when there is a chaotic home situation). The language training program aims toward the language normalization through individual language therapy, language activities in the classroom, and education of the parents in home instruction. (From ECEA, 1977, 8 (4), Abstract No. 082894).

1102. Martin, G.L., England, G., Kaprowy, E., Kilgour, K., & Pilek, V. (1968). Operant conditioning of kindergarten-class behavior in autistic children. Behavior Research and Therapy, 6, 281-294.

1103. Mitchell, D.R. (1969, October). The education and treatment of emotionally maladjusted children. A collection of papers presented at a symposium held at the University of Waikate.

Six papers consider various aspects of the education and treatment of emotionally disturbed children. B.S. Parsonson examines the rationale and efficacy of the application of learning theory principles to the modification of deviant behavior. The need for family therapy is discussed by J.E. Ritchie, who focuses upon the environmental causes and social context of emotional disturbance. The family is seen as a possible context for distorted communications maintained as a pathological homeostasis. Therapeutic qualities of group counseling are described by D.R. Mitchell in behavioral terms (reinforcement, modeling, desensitization) while the group is seen as a social microcosm with multiple relationships. L.G. Rhodes suggests that disturbed children are possibly not best served by adjustment classes, in the light of efficacy studies and study of the effects of disability labels on teacher expectancies. Institutional care of socially maladjusted children is examined by B.C. Atwool, while Muriel Blackburn focuses on the diagnosis, etiology, and treatment of autism. (From ECEA, 1972, 4 (1), Abstract No. 040479).

1104. Mordock, J.B. (1970). Recent Innovations in Teaching the Autistic Child. Devereux Schools Forum 6 (1), 3-15.

Citing recent studies, the author reviews what is known about the etiology and characteristics of autism. Teaching programs growing out of research on the autistic child's use, or non-use, of language are described. These include a program for communication therapy, a program centered on the imitation of the therapist, a reading program, and language study projects. In addition to studies of development of language and communciation skills, research on imitation, compliance, and motor performance in autistic children is cited. Methods reviewed include teaching by use of operant conditioning procedures. (From ECEA, 1971, 32, Abstract No. 0312920).

1105. Morgan, S.R. (1979). Case-history and clinical observation: Valuable material for teachers. Behavioral Disorders, 5 (1), 48-52.

Highlights the importance of educating teachers working with emotionally disturbed children in terms of programming and educational strategies. (From PA, 1979, 65 (1), Abstract No. 4055).

1106. Murrell, M. et al. (1974). Anny learns to match digits with the number of objects. Special Education in Canada, 49 (1), 20-22.

A six-step behavior modification procedure was used to train an 8-year-old autistic male to match counted objects with numerals. From matching felt circles to pictured circles in step 1, subject progressed to counting the correct number of objects without the aid of a model. After S learned to count felt circles and correctly match them with numbers from 1 to 10, a generalization test was conducted with other subjects. In follow-up testing, 7 months later, S's accuracy was 90% on three tests using felt circles, bingo chips, and wooden blocks. (From ECEA, 1975, 7 (2), Abstract No. 070815).

1107. McDonald, J.E., & Sheperd, G. (1976). The autistic child: A challenge for educators. Psychology in the Schools, 13 (3), 248-256.

Knowledge of infantile autism, albeit inconclusive and controversial, has improved since the condition's initial 1943 description. However, there is still no agreement on etiology, diagnosis, or treatment methods; autism remains an obscure, ill-defined, & poorly understood child psychopathy. Efforts at diagnosis and etiology are often far removed from issues of necessity for educators in planning daily instructional activities. Educators require specific and focused information, which directs their selecting methods and materials. With more time and research, specific methods appropriate for educational, social, and behavioral remediation will emerge. General aspects of knowledge about autism, and behavioral and cognitive characteristics of autistic children are discussed. Treatment techniques are addressed; teacher responsibilities are perhaps most readily accomplished using criterion-referenced assessment and behavioral teaching practices. (From LLBA, 1980, *14* (2), Abstract No. 8002991).

1108. McHale, S.M., Olley, G.G., Marcus, L.M., & Simeonsson, R.J. (1981). Nonhandicapped peers as tutors for autistic children. *Exceptional Children*, *48* (3), 263-265.

Reports the results of a study examining the effectiveness of peer helpers with autistic children. Subjects were five autistic and five non handicapped children aged 5-8 years. Over a period of four weeks, task-related behavior improved from peer tutoring. These results are discussed in terms of the feasibility of future integration of such children. (From PA, 1982, *67* (3), Abstract No. 8491).

1109. McHale, S.M., & Semeonsson, R.J. (1980). Effects of interaction on nonhandicapped children's attitudes toward autistic children. *American Journal of Mental Deficiency*, *85*, 18-24.

Second and third graders were interviewed concerning their attitudes and understanding of children exhibiting autism confounded by mental retardation. The interviews took place before and after the children had participated in a week of daily play sessions with autistic children. Comparisons of the children's attitudes at each time indicated that they were positive on both occasions. (From CDA, 1981, *55* (5-6), Abstract No. 1541).

1110. Norris, Martha Sue. Utilization of peer tutors with the autistic child: An analysis of training procedures and academic outcomes. *University Microfilms International*, P.O. Box 1346, Ann Arbor, MI 48106.

It was found that three normal fourth grade students could teach new academic skills to early primary autistic students in a public school setting. Results showed a significant increase in percent correct of basic number fact recognition. (From ECEA, 1980, *12* (1), Abstract No. 120987).

1111. O'Dell, S.L. et al. (1977). Competency-based training for severely behaviorally handicapped children and their parents. Journal of Autism and Childhood Schizophrenia, 7 (3), 231-242.

Described are the major components of a treatment program designed to help severely behaviorally handicapped children (2 to 16 years old) develop the necessary skills to function in regular classrooms or special education classes. (From CIJE, 1978, 10, Abstract No. 101572).

1112. Painter, Marylyn. (1974). The Santa Cru Eleven: A comprehensive plan for the education of autistic and seriously emotionally disturbed children. Santa Cruz Board of Education, California, Bureau of Education for the Handicaped (DHEW/DE). Washington, D.C.

Reported are the results of the 3 year Santa Cruz pilot project involving 11 disturbed children (4 to 12 years old) to determine if autistic and severely emotionally disturbed (SED) children could benefit from a public school program. A program description and recommendations for implementation are presented in ten chapters having the following titles: "Pleading the Fourteenth for the Autistic and Emotionally Disturbed" (legislation and special education); "Diagnosis and Definitions: Who are the Autistic and Seriously Emotionally Disturbed?"; "The Santa Cruz Program - A Description"; "The Santa Cruz Behavioral Characteristics Progression Chart" (a tool for assessing the development of a handicapped pupil); "Transition: The Big Adventure (integration of children into a regular class program); "Evalution: How Effective Was the Santa Cruz Program?"; "Manpower Planning and Development" (putting together the program staff); "The Classification System: Where Do the Autistic - SED Fit?"; "Delegation of Responsibility: The Local Comprehensive Plan" (preparing a detailed report of programs and services provided): and "A Financial Model for Special Education Funding." Results are seen to provide evidence that public school education is feasible for autistic and SED children. Appendixes are included such as a comparison of terms used by three classification systems for individuals with exceptional needs. (From ECEA, 1976, 7 (4), Abstract No. 073436).

1113. Park, C.C. (1974). Elly and the right to education. PhiDelta Kappan, 55 (8), 535-537.

The mother of a 15-year-old autistic child recounts her family's struggle to gain special education for their daughter prior to the Pennsylvania court decision mandating public education for all children. Noted are rejection by the public school superintendent, temporary private school enrollment, and current fulltime enrollment in a special class for emotionally disturbed children at the local high school. Psychologists and psychiatrists are urged to watch the autistic child and listen to the child's parents and teachers who are the real experts on a particular behaviorally disordered child. (From ECEA, 1974, 6 (3), Abstract No. 061724).

1114. Rabb, E. & Hewett, F.M. (1967). Developing appropriate classroom behaviors in a severely disturbed group of institutionalized kindergarten-primary children utilizing a behavior modification technique. American Journal of Orthopsychiatry, 37 (2), 313-314.

Utilized a group learning situation with hospitalized children diagnosed as autistic, atypical and severe primary behavior disordered. (From PA, 1967, 41 (1), Abstract No. 9015).

1115. Radulovic, K., Bojanin, S. Stefanovic, T., & Povse, V. (1978). Specificities of education of a psychotic child. (Srcr). Psihijatrija Danas, 10 (2), 213-220.

Compared three treatment modalities designed to change the social behavior of three psychotic children. The methods utilized included long-term hospitalization, day hospital and school attendance in a protected environment, and treatment in a community setting with outpatient therapy. (From PA, 1981, 65 (1), Abstract No. 6401).

1116. Richards, J.E. (1963). Techniques used in a school program for children emerging from early infantile autism. Except. Child., 29, 348-357.

Four autistic girls aged 5 to 6 years were admitted to the Children's Psychiatric Hospital in Ann Arbor, Michigan, from 1957 to 1960, and at the time of the writing of this article had been in residence from 2 to 5 years. The author, who worked as a teacher with 3 of these girls, describes her experiences and suggests various techniques which may be useful with such children. (From CDA, 1964, 38 (5-6), Abstract No. 836).

1117. Rincover, A. & Koegel, R.L. (1977). Classroom treatment of autistic children: II. Individualized instruction in a group. Journal of Abnormal Child Psychology, 5 (2), 113-126.

Assessed was the feasibility of providing individualized instruction in a classroom of four autistic children (4 to 13 years old). Initially, one teacher attempted to teach different academic behavior to all four Ss simultaneously. During these sessions the teacher rotated from child to child, providing individualized instructions and reinforcers to each. It was found, however, that each child stopped responding whenever the teacher rotated to a different child, and, further, no academic progress occurred for any of the children during these sessions. In a multiple baseline design, treatment procedures were then introduced (prompt fading, chaining, and programmed instructional materials) to teach each student to continue working for an extended period of time after each instruction from the teacher. After treatment, sessions of individualized instruction in a group were reintroduced for each child. The results showed that unsupervised responding was an important variable influencing the effectiveness of individualized instruction. By the end of the study it was possible for one teacher to simultaneously teach four autistic children, with each child learning at his own rate, on his own tasks, with minimal supervision from the teacher. (From ECEA, 1978, 10 (1), Abstract No. 100399).

1118. Rincover, A., Koegel, R., & Russo, D. (1978). Some recent behavioral research on the education of autistic children. Education and Treatment of Children, 1 (4), 31-45.

A literature review dealing with research related to advances in parent and teacher training, and classroom instruction, motivation, and generalization of treatment gains. The use of behavior modification as a viable technique for parents teachers, and children in treating autistic children is emphasized. (From PA, 1980, 63 (2), Abstract No. 13011).

1119. Rincover, A. & Tripp, J.K. (1979). Management and education of autistic children. School Psychology Digest, 8 (4), 397-411.

Mainstreaming autistic children requires dealing with certain types of behavior: disruptive behavior, learning problems, and difficulties functioning in group-oriented activities. Recent advances in behavioral treatment procedures have alleviated some of these problems. (From CIJE, 1980, Abstract No. EJ217073).

1120. Rosenbaum, M.S., & Breiling, J. (1976). The development and functional control of reading-comprehension behavior. Journal of Applied Behavior Analysis, 9 (3), 323-333.

Reading comprehension, indicated by motor behavior and multiple choice picture selection called for in written instructions, was taught to an autistic child (12 years old). Verbal prompts, modeling, and physical guidance were used in teaching the child who was rewarded for correct behaviors to training items (nonrewarded probes were used to assess generalization). Probable maintaining events were assessed through their sequential removal in a reversal design. Results showed that following acquisition, performance was maintained at a near 100% level when candy, praise, attention, and training were removed; that the absence of other persons was correlated with a marked decrease in performance, whereas their presence was associated with performance at near 100%; and that performance generalized to probes and across experiments. Rewards, which may have been reinforcing during acquisition, did not appear necessary to maintain later performance. Instead, presence of others (a setting event) was demonstrated to have control over maintained performance). (From ECEA, 1977, 9 (1), Abstract No. 090578).

1121. Russo, D.C., & Koegel, R.L. (1977). A method for integrating an autistic child into a normal public schoolroom. Journal of Applied Behavior Analysis, 10, 579-590.

The results showed that, during treatment by a therapist in the classroom, the child's appropriate verbal and social behaviors increased and autistic mannerisms decreased. (From CDA, 1979, 53 (1-2), Abstract No. 401).

1122. Rutter, M. (1970). Autism: Educational Issues. Special Education, 53 (1-2), Abstract No, 401).

The second part of an article on autism, the paper includes a discussion of the issues of controversy in the educational treatment of autistic children. General principles are outlined, and comments on the teaching approach and educational techniques indicate the type of schooling needed. Stated aims are: preventing secondary handicaps, finding approaches to circumvent primary handicaps, and finding techniques to aid the development of functions involved in the primary handicaps. Controversial topics reviewed include when to begin education, parents' role, pressure, teacher-child relationship, punishment, structure, skill-orientation, conditioning techniques, teacher training, segregated classes and schools, space needs, day versus residential schooling, and mentally handicapped autistic children. (From ECEA, 1971, 3 (1), Abstract No. 030222).

1123. Rutter, M. & Bartak, L. (1973). Special education treatment of autistic children: A comparative study-II.

Follow-up findings and implications for services. Journal of Child Psychology and Psychiatry and Allied Disciplines, 14 (4), 241-270.

The second part of a two part comparative study, in which autistic children attending three different special units were followed up over a three and a half to four year period to assess changes in educational, cognitive, linguistic, social, and behavioral status. The group as a whole had made considerable progress in all spheres, and it was concluded that the results amply justify the provisions of special education for autistic children. Comparisons between the units suggest that large amounts of specific teaching in a well-controlled classroom situation is likely to bring the greatest benefits in terms of scholastic progress. The findings are used to consider a variety of specific questions in relation to the optimum types of schooling required for autistic children.(From LLBA, 1973, 14 (4), Abstract No. 7401751).

1124. Ruttle, K. (1981). Two alternative roles for the school psychologist in the treatment of emotionally disturbed and autistic children. Psychology in the Schools, 18 (4), 467-470.

The paper describes two alternative roles for the school psychologist working with programs for autistic children or programs for emotionally disturbed children. The first approach is concerned with behavior management of children either by consultation to program staff or by direct work with the child, as well as support staff through continuous feedback of classroom behavior management techniques. The second approach encompasses all of the first approach, in addition to the psychologist serving as coordinator for the program and thereby assuming greater responsibility for cooperation between the school and the home, as well as for ongoing program development. A model for both of the alternative approaches for the school psychologist includes a format for ongoing behavior assessment, suggestions for the structure of teacher-psychologist feedback sessions, methods of school and home cooperation, and a proposal for a horizontal administrative structure of programs for emotionally disturbed and for autistic children. The concept that is advocated is a team of professionals (teacher and psychologist) planning for the holistic development of the child. (From ECEA, 1982, 14 (2), Abstract No. 141471).

1125. Sage, W. (1975). Classrooms for the autistic child. Human Behavior, 4 (3), 38-42.

An educational program for autistic children (2-to-9 years-old) at three California elementary public schools utilizes the services of experts in language and behavior modification. Control of students' tantrums and self-simulation is accomplished through individually prescribed operant conditioning treatments (such as isolation and timeout) written by consensus agreements at weekly staff meetings. Children are then taught instructional prerequisites (such as following simple commands and establishing eye contact) and are rewarded with a favorite food for successful learning. Language instruction includes building a receptive vocabulary (by relating words to objects), teaching simple concepts (such as same versus different), and helping students to associate photographs with actual objects. The children also learn daily living skills (such as buttoning clothing, and socially acceptable eating habits), interpersonal skills (such as expressing affection and playing with other children), and physical coordination (through games such as "Simon Says"). Behavior modification workshops are offered to parents. The program is also reported to be beneficial in helping to normalize the family life of the autistic child. (From ECEA, 1975, 7 (2), Abstract No. 071733).

1126. Schopler, E. & Olley, J.G. (1980). Public school programming for autistic children. Exceptional Children, 46 (6), 461-463.

Describes an educational approach designed to provide awareness of autistic children's need to be with significant others, and featuring structured teaching methods. (From PA, 1980, 63 (2), Abstract No. 13013).

1127. Stamp, I. (1966). Teachers look at autism. Australian Preschool Quartery, 7, 12-14.

The author lists nine behavior characteristics usually observed in autistic children, and illustrates these with brief descriptions of children. She points out the need for a constant mother figure during infancy and mentions ways in which deprivation can occur. She suggests ways in which the teacher may begin communication with the child by non-verbal means. She states that an autistic child should be in the group only as long as the teacher can watch for opportunities for contact. Ignoring the child may only increase his tendency to isolation. (From CDA, 1967, 41 (1-2), Abstract No. 207).

1128. Stiver, R.L., & Dobbins, J.P. (1980). Treatment of atypical anorexia nervosa in the public school: An autistic girl. Journal of Autism and Developmental Disorders, 10 (1), 67-73.

Discusses the use of desensitization procedures in successfully treating an autistic preadolescent female. Emphasis is also placed on consideration of educator needs in terms of ultimately helping such children. (From PA, 1980, *64* (1), Abstract No. 4204).

1129. Todd, T.W. (1976). Mobility training with a sighted autistic girl. *Pointer*, *21* (2), 54-58.

A mobility training program was developed for a 13 year old sighted autistic girl to increase her chance for success in the school she would be attending. A three stage program involved such steps as getting the school's administrative support, teaching the girl to locate the six places she would have to travel to each day, and evaluating the child's retention. A week after training, the student was able to find all rooms successfully on the first trial. (From ECEA, 1980, *63*, Abstract No. 100600).

1130. Upton, G. et al. (1977). A video unit in school-Is it worthwhile? *Special Education: Forward Trends*, *4* (1), 23-35.

Videotape equipment was used for two terms at the Lindens School for autistic children in England in order to determine whether purchase of such equipment would be cost effective. The equipment proved most helpful in the following areas: identifying behaviors in need of modification; permitting teachers to take a more objective view of their students' progress; facilitating discussion among teachers and other professionals about treatment options; formulating teaching tools that responded directly to children's needs and experiences and training new staff. Despite difficulties with the expenses of extensive filming, it was decided that purchase of video equipment would be beneficial. (From ECEA, 1978, *9* (4), Abstract No. 093102).

1131. Wallick, M.M. (1980). An autistic child and books. *Top of the News*, *37* (1), 69-77.

Describes the use of books in treating a preschool autistic child. Both the affective and cognitive domains of development are discussed, and citations are provided for the 16 books mentioned in the treatment. (From CIJE, 1981, Abstract No. EJ237097).

1132. Wallick, M.M. & Boudreaux, M.V. (1979). *Bernie: Parts I and II. A four-year psychoeducational intervention in a therapeutic preschool and a public school class for* autistic children. Paper presented at the Annual International Convention, the Council for Exceptional Children, Dallas.

Two teachers recount the 2 years they each spent teaching an autistic 9 year-old boy named Bernie. The first teacher reviews Bernie's life history, reporting the facts of his birth and followup examinations which revealed no medical abnormality. The teacher then describes her work with Bernie and the Therapeutic Nursery School. After an initial adjustment period, Bernie is described as beginning to accept contact, and allowing such activities as having his stomach rubbed and gentle blowing on his neck and face. It is explained that the major successful intervention therapy used was simultaneous communication, which was introduced in the second year. This approach, introduced after eye contact had been established, is described as having a remarkable impact on Bernie's speech. The second teacher elaborates on the subsequent 2 years in which Bernie's education continued at a public elementary school in a class for autistic children. The class setting and procedures are outlined and the development of self care and academic skills is explained. Behavior modification techniques to control such behaviors as tantrums and hand flapping are discussed. The use of simultaneous communication, which had been continued from the nursery, was now eliminated, it is explained. The teacher records that Bernie began to read and do simple math. (From ECEA, 1980, 11, Abstract No. 115229).

1133. Wilson, S.L. (1979). Administrative procedures utilized in establishing programs for autistic children. Southern California University, Edward L. Doheny, Jr. Memorial Library, Micrographics Dept., Los Angeles CA 90007.

The study was designed to determine whether the programs established for autistic children in public schools in southern California contained the successful elements of model educational programs. From results of a questionnaire it was concluded that the elements were not uniformly provided in all public school programs. (From ECEA, 1979, 11 (3), Abstract No. 114383).

1134. Wood, M.M., & Swan, W.W. (1978). A development approach to educating the disturbed young child. Behavioral Disorders, 3 (3), 197-209.

The article discusses Developmental Therapy - an approach to working with emotionally disturbed and autistic young children that is based upon developmental constructs - and presents the results of several studies testing its effectiveness. The Developmental Therapy curriculum is described, including its sequence of 146 developmental milestones clustered into stages reflecting social and emotional growth in children from ages 2 to 12 years. Evidence of progress is presented for 106 emotionally disturbed preschool children who received Developmental Therapy. The hierarchical validity of the Developmental Therapy Objectives Rating Form - the primary instrument used in Developmental therapy to measure emotional growth - is evaluated based on a study of 87 children and found to be effective. (From ECEA, 1979, 11 (1), Abstract No. 11 1369).

1135. Abelson, A.G. (1981). The development of gender identity autistic child. Child: Care, Health and Development 7, 347-356.

A significant relationship was found between gender identity and mental age; chronological age; and communciation, physical, social, self-help, and academic skills. (From CDA, 1982, 56 (5-6), Abstract No. 2176).

1136. Ando, H., Yoshimura, I., & Wakabayashki, S. (1980). Effects of age on adaptive bhavior, levels and academic skill levels in autistic and mentally retarded children. Journal of Autism and Developmental Disorders, 10, 173-184.

This study investigated the effect of age on adaptive behavior and academic skill in autistic and mentally retarded children. Levels of toilet training, eating skills, participation in group activities, and self-control among the autistic children improved with age. The skills of number concepts in the autistic children also improved with age. However, these adaptive and academic levels were lower than those of the mentally retarded children. (From CDA, 1981, 55 (3-4), p. 169).

1137. Beeckmans-Balle, M. (1973). Le syndrome d'autisme infantile: Essai de considerations sur les facteurs de pronostic precoce (Fr.). The syndrome of infantile autism: Attempt at considerations on the factors of early progrnosis. Acta Psychiatrica Belgica, 73 (5), 537-555.

On the basis of the longitudinal observation of 27 children, the severity of autism is considered dependent upon two major factors: (1) The intellectual potentialities of such children do not seem to be as good as has been claimed; the hypothesis that the evolution of such a disease is conditioned to a great extent by the intelligence of the children is supported; and (2) the disturbance of the perceptual integration: support is given the consideration that early infantile autism as an inadequate modulation of perceptual integration. Insofar as this disorder reveals itself not only through typical autistic behaviors, but also by irritability and overarousal, and by sensory avoidance and inhibition, a relation between the lability of the clinical picture, the disorder of the modulation of perceptual integration, and the severity of the syndrome is suspected. (From LLBA, 1974, 8(2), Abstract No. 7405920).

1138. Bemporad, J.R. (1979). Adult recollections of a formerly autistic child. Journal of Autism and Developmental Disorders, 9 (2), 179-197.

The life history, current status, and memories of a 31 year-old man who, as a child, had been diagnosed as autistic by L. Kanner and others is described. Prognostic criteria as related to this individual's outcome are discussed. Some speculations about the inner life of autistic children are advanced on the basis of his recollections. Finally, some hypotheses for further research are suggested on the basis of information gained from this case review. Among conclusions were that in view of the dismal prognosis assigned to most autistic children, the man may be described as having progressed well; that the man's recollections about his childhood may give insight into the nature of autism; and that the major defect that affected this man throughout his life was a lack of empathic relatedness. (From ECEA, 1980, 12 (1), Abstract No. 120148).

1139. Brown, J.L. (1963). Follow-up of children with atypical development (infantile psychosis). American Journal of Orthopsychiatry, 33, p. 855.

1140. Campbell, M., Hardesty, A., Breuer, H., & Polevoy, N. (1978). Childhood psychosis in perspective: A follow-up of 10 children. Journal of Amer. Acad. of Child Psychiatry, 17, 14-28.

1141. DeMyer, M.K., Barton, S., DeMyer, W.E., Norton, J.A., Allen, J., & Steele, R. (1973). Prognosis in autism: A follow-up study. Journal of Autism and Childhood Schizophrenia, 3 (3), 199-246.

A report of a follow-up study involving 85 autistic boys and girls, approximately 5-1/2 years of age at initial evaluation and 12 years at follow-up. Measures, also applied to 26 non-psychotic subnormal controls, included speech, social, educational, and family adequacy ratings, IQ's, and neurological data. Most autistic children remained educationally retarded and 42% were institutionalized. Good agreement with two studies by other authors indicates the following prognosis in autism: 1 to 2% recovery to normal, 5 to 15% borderline, 16 to 25% fair, and 60 to 75% poor. The best predictor of functional capacity in a work/school setting was the child's rating at intake. Performance IQ and severity of illness were next to best predictors. Case histories of 20 children with the best outcome, including two functionally normally, are compared and analyzed. (From LLBA, 1974, 8

(1), Abstract No. 7403081).

1142. Dewey, M.A., & Everard, M. (1974). The near-normal autistic adolescent. Journal of Autism and Childhood Schizophrenia, 4 (4), 348-356.

A panel of six parents and professionals compared their impressions of the communication problems and social adjustment of approximately 50 predominately male mildly autistic adolescents. Despite the unique personalities and different aptitudes of the adolescents, the panel noted the following common characteristics: typical use of nonreciprocal speech, with such recurrent problems as failing to listen, interpreting words too literally, and making irrelevant comments; and apprehension in social situations. The panel also examined management problems in areas such as sexuality, siblings' attitudes toward the autistic family member, whether to tell a child that he is autistic, and how to deal with special talents. Further study of the problems and needs of mildly autistic adolescents was recommended. (From ECEA, 1975, 7, Abstract No. 072108).

1143. Eisenberg, L. (1956). The autistic child in adolescence. Amer. J. Psychiat., 112, 607-612.

Sixty-three autistic children have been reevaluated at a mean age of 15 years after a mean follow-up period of nine years. The original diagnosis was based upon the conjunction of two symptoms which are to be regarded as pathognomonic for early infantile autism: extreme self-isolation, present in the first years of life, and obsessive insistence on the preservation of sameness. All of the children exhibited distortions of language function, ranging from mutism and delayed onset of speech to highly metaphorical language, employed with little intent to communciate meaning to others. Of the 63 cases, 34 are at present in full-time residential settings and 29 at home with parents or foster parents. Information was obtained through reexamination plus supplementary reports in 30 cases, institutional abstracts in 24 cases, and parents', physicians', and school reports in nine cases. Of the total group, three can be said to have achieved a good adjustment, 13 a fair one, and 46 a poor one. Thus, a little less than a third are functioning at a fair to good social level. The prognosis has been shown to vary significantly with the presence of useful speech at the age of five, taken as an index of the severity of autistic isolation. Half of the 32 children who possessed meaningful language by the age of five improved, whereas only one of 31 without the ability to communicate verbally by that age has shown significant improvement. The study failed to reveal any correlation between formal psychiatric treatment and the clinical outcome. Of the 16 cases with fair or good outcome, two had brief periods of psychiatric hospitalization and two others were followed intermittently on an outpatient basis. In the cases with poor outcome, a full range of psychiatric treatment had been applied with only, at most, temporary change which failed to interrupt the down-hill course. The separation of early infantile autism from other cases of childhood schizophrenia continues to be justified clinically; however, since the peculiarities of language and thought, while somewhat different, share the general features of schizophrenia, the syndrome can be logically classified as one of the schizophrenias. The striking disability in interpersonal relations and the severe obsessive-compulsive mechanisms remain the pathognomonic features of autism. Most of the adolescent autistic children who have not emerged from their illness remain distinguishable from cases of "simple" retardation by their affective isolation. In those patients with a relatively favorable outcome, behavior is still characterized by a failure to subordinate individual concerns to social necessity. The author suggests that, in a sense, the primary psychopathologic feature in infantile autism is a disturbance in social perception. (From CDA, 1957, 31, p. 119).

1144. Gajzado, C. & Prior, M. (1974). Two cases of "recovery" in Kanner syndrome. Archives of General Psychiatry, 31 (2), 264-268.

Provides follow-up data of two children originally though to be autistic. (From PA, 1975, 53 (1), Abstract No. 1345).

1145. Gilberg, C., & Schaumann, H. (1981). Infantile autism and puberty. Journal of Autism and Developmental Disorders, 11(4), 365-371).

In a Swedish sample of five autistic children (12 to 18 years old) deterioration or severe symptom aggravation at the onset of puberty that followed earlier improvement is described. It is suggested that autistic children with pubertal deterioration may constitute a meaningful subgroup of the syndrome. (From ECEA, 1982, 14 (2), Abstract No. 14 1292).

1146. Harper, J. (1975). Age and type of onset as critical variables in early infantile autism. Journal of Autism and Childhood Schizophrenia, 5, 25-36.

A retrospective study of 131 autistic children was made in which 2 groups, natal and acquired, were defined on the bases of age at onset and type of onset. Prenatal and perinatal variables were found to be significantly related to natal onset, whereas in the acquired group the significant variables were those occurring in early childhood between years 1 and 3. (From CDA, 1976, *50*, (3-4), Abstract No. 856).

1147. Kanner, L. (1971). Follow-up study of eleven autistic children originally reported in 1943. *Journal of Autism and Childhood Schizophrenia*, *1* (2), 119-145).

The destinies of the eleven children first reported in 1943 as suffering from autistic disturbances of affective contact are brought up to date. Their life histories are summarized succinctly in terms of developmental data, family constellations, clinical observations in the course of the years, the varieties of professional planning, and present status. Attention is called to the subsequent scientific studies of early infantile autism with ever-increasing facilities for research in nosology, biochemical and general systematic implications, and therapeutic amelioration. The need for continued follow-up studies of autistic children is emphasized. (From LLBA, 1971, *5* (4), Abstract No. E05058).

1148. Kanner, L., Rodriguez, A., & Ashenden, B. (1972). How far can autistic children go in matters of social adaptation? *Journal of Autism and Childhood Schizophrenia*, *2* (1), 9-33.

The case histories of nine autistic children, eight boys and one girl, selected from a total of 96 so diagnosed at The Johns Hopkins Hospital prior to 1953, are presented in some detail and discussed. These children, first evaluated and given the diagnosis at an age ranging from two years 10 months to eight years one month, are presently in their 20's and 30's. Their development is traced from acute psychotic infancy until the end of 1971. Having made sufficient social adjustment, they manage to function as self-dependent individuals, mostly well educated and all gainfully employed. Attention is drawn to differences between this group and other autistic patients, maturational and environmental issues as well as to past and present patterns of behavior and personality structure. (From LLBA, 1972, *6* (2), Abstract No. 7204806).

1149. Lockyer, L., & Rutter, M. (1969). A five to fifteen year follow-up study of infantile psychosis. *British Journal of Psychiatry*, *115* (2), p. 880.

1150. Lotter, V. (1974). Factors related to outcome in autistic children. *Journal of Autism and childhood*

Schizophrenia, 4 (3), 263-277.

Thirty-two autistic children, identified in an epidemiological survey in England when they were eight to ten years old, were followed up eight years later. The best single predictor of outcome was a measure of speech. Speech and IQ together correlated more highly with outcome than did any other combination of variables. The frequency of family mental illness was similar to that found in comparable studies. Onset of fits in adolescence in some autistic children confirms that evidence of neurological abnormalities increases with age. Subclassification among autistic children is urged. A scheme is offered which identifies main areas of uncertainty in classification. (From LLBA, 1975, 9 (1), Abstract No. 7504194).

1151. Rutter, M., Greenfeld, D., & Lockyer, L. (1967). Study of infantile psychosis II. Social and behavioral outcome. British Journal of Psychiatry, 113(2), 850.

1152. Schachter, M. (1968). Evolution et pronostic de l'autisme infantile precoce. (Evolution and prognosis of early infantile autism). Acta Paedopsychiatrica, 35 (4-8), 189-199.

Provides an longitudinal analysis of an autistic case over a 13-year period. (From PA, 1969, 43 (1), Abstract No. 4239).

1153. Wakabayaski, S., & Mizuno, M. (1975). A study on the prognosis for autistic children. (Japn). Japanese Journal of Child Psychiatry, 16 (3), 177-197.

A literature review of studies in Japan and other countries which investigate research of autistic children at a Japanese university hospital. Findings are discussed in terms of prognosis, social development, and outcome. (From PA, 1981, 65 (2), Abstract No. 10613).

1154. Beavers, D.J. (1971). The challenging frontier-part II: Current research in the field of severe childhood mental illness. Schizophrenia, 3 (3-4), 181-196.

Reviewed is research within the past year in the areas of infantile autism and childhood schizophrenia, severe disorders of communication and behavior, and in related areas of neurology and genetics. Encompassed are studies investigating environmental, genetic, biochemical, and neurological factors in severe emotional disturbance in children. Covered are studies of the behavior of autistic and schizophrenic children, investigations of neurochemical and biochemical factors or abnormalities found in autistic children, and methods of treating emotional disturbance, particularly with megavitamin therapy and drug therapy on the premise that the various mental disorders have a biological base. Also reviewed are research on the etiology of schizophrenia, with emphasis upon genetic factors, related medical studies in the fields of mental retardation and genetics (particularly on metabolic disorders), studies of brain structure and function focusing on areas of brain lesions responsible for specific behavioral disorders, and genetic studies dealing with chromosomal abnormalities and the prediction of gross defects in unborn children. (From ECEA, 1972, 4 (1), Abstract No. 040524).

1155. Bensky, J.M. (1977, May). Behavioral management of autistic children. Paper presented at the Annual Meeting of the Midwestern Association for Behavior Analysis, Chicago, Illinois.

The paper provides a brief overview of the diagnosis, etiology, and treatment strategies presently being used with autistics. Discussion of treatment strategies revolves around the use of operant techniques; from Lindsley and Skinner (1954) to more recent attempts of Lovaas (1976). Generalizaiton and maintenance are also discussed in light of Schreibman's (1975) recent work. In addition, a review of research regarding elimination of maladaptive behaviors is presented. Finally, future directions and guidelines pertaining to treatment strategies with autistic children are covered. Ethical, legal, and cognitive/developmental issues are discussed. (From ECEA, 1980, 12 (2), Abstract No. 121158).

1156. Friedman, E. (1974). Early infantile autism revisited. Journal of Clinical Child Psychology, 3 (1), 4-10.

The address by the outgoing president of the American

Psychological Convention focuses on infantile autism - its history, etiology, the mother's role, and therapy. Reviewed are major studies in the area of autism in the last decade. The work of early researchers into childhood schizophrenias and the naming of the condition by Leo Kanner are noted. Considered are the following four trends in etiology; autism as a functional disturbance, autism as an organic disorder, autism as idiocy, and rejection of all attempts to classify autism and determine etiology. Theories on the role of the mother are traced from early emphases on the rejecting mother to more recent studies which find little evidence of parental responsibility for the child's condition. Noted is the lack of highly positive results in therapeutic approaches including psychodynamic therapy, chemotherapy, and behavioral therapy. (From ECEA, 1974, 6 (3), Abstract No. 06171).

1157. Ives, L.A. (1972). Infantile autism: Some notes on recent research studies. Association of Educational Psychologists' Journal and Newsletter, 3 (2), 47-52.

Findings of a study group associated with the Institute for Mental Retardation are reported on. (From PA, 1975, 53 (1), Abstract No. 5505).

1158. Piggott, L.R. (1979). Overview of selected basic research in autism. Journal of Autism and Developmental Disorders, 9 (2), 199-218.

Basic research in autism is reviewed. It is reported that there is mounting indication, but as yet inconclusive evidence, of unique physiologic disturbances etiologically related to autism and additionally, that some of the physiologic disturbances found in autistic children are also present in children with other developmental disorders. Children called autistic are seen to represent a complex of clinically similar manifestations in a variety of different subgroups of children, each subgroup representing a basically different physiologic disturbance. The author goes on to say that the possibility remains that there is only one basic disturbance that in varying degrees affects many body systems and thus manifests in a variety of overlapping syndromes; that objective markers are needed so as to allow the demarcation of subgroups of autistic children for further study; and that possible markers may be decreased duration of postrotatory nystagmus, auditory evoked response deviations, lymphocytic hyporesponsivity, increased blood platelet serotonin efflux, and/or the presence of urinary DMT or bufotenin. (From ECEA, 1980, 12 (1), Abstract No. 120149).

1159. Rutter, M. (1968). Concepts of autism: A review of research. *Journal of Child Psychology & Psychiatry*, *9*, 1-25.

It is suggested that contrary to earlier views, infantile autism is not anything to do with schizophrenia, and it not primarily a disorder of social relationships. The presence of mental subnormality is not sufficient to account for autism, and it seems unlikely that psychogenic or faulty conditioning mechanisms are primary factors in etiology, although they may be important in the development of secondary handicaps. The importance of genetic factors remains unknown. The role of "brain damage' in the genesis of autism is also uncertain, but organic brain abnormalities appear to be primary influences in some cases - in how many is not known. In any case, the concept of "brain damage' is too general to be of much help in understanding the genesis of autism. The determination of the relevance of abnormalities in physiological arousal awaits further research. Of all the hypotheses concerning the nature of autism, that which places the primary defect in terms of a language or coding problem appears most promising. It is suggested that many of the manifestations of autism are explicable in terms of cognitive and perceptual defects. This is an area of inquiry likely to reward further study. (From CDA, 1970, *44* (3-4), Abstract No. 725).

1160. Ward, A.J. (1970). Early infantile autism: Diagnosis, etiology, and treatment. *Psychological Bulletin*, *73* (5), 350-362.

An overview of the syndrome of early infantile autism (EIA) is presented which reveals a general state of confusion in the recent literature. Examination of the problem of diagnosis suggests the presence of significant amounts of organic dysfunction in many subjects who have been labeled as "autistic." The following diagnostic criteria are suggested: (1) lack of object relations, (2) lack of use of speech for communication, (3) maintenance of sameness via stereotypic behavior, and (4) lack of neurologic dysfunction. A study of the question of etiology disclosed that many articles emphasize the effects of either overstimulation or a lack of stimulation at early developmental stages, and discuss the importance of the perceptual apparatus. This study again revealed the existence of two subgroups of autistic subjects who could be described as "organic" and "psychogenic". Evaluation of modes of treatment revealed few successful reports except when a very active, intrusive, and pleasant therapeutic approach was used. Hypotheses are proposed, from an ego-psychology point of view, on etiology and treatment. (From LLBA, 4 (2), Abstract No. D02853).

1161. National Society for Autistic Children. (1974). Resources, education, and the law: Resources for autistic children. Proceedings. National Society for Autistic Children, Albany, New York.

Proceedings of the 1974 annual meeting of the National Society for Autistic Children include the president's report, nine presentation, a luncheon address by Julie N. Eisenhower, a brief discussion of standardized testing and a brief program description. The presentations deal with the following topics: the development of infantile autism (M. Rutter); a model for a comprehensive services program for children (R. Reichler); areas of needed research (E.L. Phillips); current research in the biochemistry of autism (M. Coleman); and biological studies in childhood autism and implications for treatment and policy (D. Cohen). Other addresses focus on immediate and delayed response to sound in autism (W. Condon); orthomolecular medicine (A. Robinson); treatment of young autistic adults (M. Israel); and the right of autistic children to free public education (T. Gilhool). Two brief entries discuss the need to qualify standardized test results when evaluating autistic children, and Help is At Hand, a public school program for the autistic and seriously emotionally disturbed child. (From ECEA, 1975, 7 (3), Abstract No. 071975).

1162. National Society for Autistic Children. (1973, June). Autism: 4th annual meeting of the National Society for Autistic Children, Flint Michigan.

Presented are proceedings of the 4th annual (1972) meeting of the National Society for Autistic Children including 11 papers given at the meeting. Listed are officers and board members of the society, the convention committee members, and recipients of citations and awards. The president's report notes past goals, accomplishments, and future goals; and the text of a resolution urges federal involvement in the needs of autistic children. The papers address the following topics: a 1972 progress report on child priority (keynote address); a community based therapeutic program; research progress in areas of vitamins, hypoglycemia, and food intolerances; a description of the Flint, Michigan program which coordinates community services with the educational system; problems in the modification of verbal behavior; a hospital based therapeutic nursery program; a prevocational training program; work with autistic children in the United Kingdom; an interview with a rehabilitated autistic adult; perceptual development in autistic children; and a followup study of childhood schizophrenia. (From ECEA, 1974, 6 (1), Abstract No. 060708).

1163. Park, C.C. (1970, June). Research and education: Top priorities for mentally ill children. Proceedings of the second annual meeting and conference of the National Society for Autistic Children, San Francisco, California.

The proceedings of the Second Annual Meeting and Conference of the National Society for Autistic Children begin with three brief statements regarding the Joint Commission on Mental Health of Children. Following are the keynote address by Edwin W. Martin concerning the rhetoric and reality of the federal response to the educational needs of handicapped children, and other addresses on the strengths and weaknesses of operant conditioning techniques for the treatment of autism (O. Ivar Lovaas), autism as a deficiency in context-dependent processes (Karl H. Pribram), the autistic child as teacher and learner (Frank M. Hewett), and the Institute for Child Behavior research study of high dosage vitamins as a method of treating severely mentally ill children (Bernard Rimland). Workshop presentations and parent panels included cover such topics as the Edison Responsive Environment (or talking typewriter) used with autistic children; problems of management, training, and education as discussed by parents of autistic children of various ages; federal resources; how to work with state legislatures; a public school program for autistic children; and the Irish Society for Autistic Children. A list of eight recommended films is included. (From ECEA, 1972, 3 (4), Abstract No. 032763).

1164. Van Pelt, J.D. (1966, June). Proceedings of the annual interstate conference on mental deficiency. Australian Group for the Scientific Study of Mental Deficiency, Brisbane, Australia.

Topics presented by various authors include: the field and method of study of mental deficiency, the second stage of infantile autism; a report of a conference on services for the mentally retarded; genetic counseling; measurement and evaluation of development; educational difficulties of the socially deprived child; six cases of deLange's syndrome; and rehabilitation of the retarded. Foundation members and members of the Council of the Australian Group for the Scientific Study of Mental Deficiency are listed. (From ECEA, 1968/69, 1 (5), Abstract No. 003766).

DEFINITION, DESCRIPTION, AND DIAGNOSIS

01.
Bryson, C.Q., & Hingtgen, J.N. (1971). Early childhood psychosis: Infantile psychosis: Infantile autism, childhood schizophrenia and related disorders. An annotated bibliography, 1964 to 1969. Rockville, Md.: National Institute of Mental Health.

A review of a bibliography prepared by the Indianapolis clinical center for research on schizophrenia in early childhood. This bibliography, composed of 400 excerpts from articles appearing in reviews from 1964 to 1969, has a compilation of writings on theory, research, and treatment. The topics are classified as follows: (1) syndromes: descriptive and diagnostic studies, characterizations of behavior, ulterior studies; (2) intellectual development; (3) process of perception and peri-natal factors, drug and EEG studies, studies on skeletons, biochemistry, and others; (6) treatment: psychotherapy, behavior therapy, educational programs and evaluations of therapy; and (7) theory. There is an author index. Only English language articles appear in the bibliography. (From LLBA, 1973, 7 (1), Abstract No. 7301488).

02.
DesLauriers, A.M., & Carlson, C.F. (1969). Your child is asleep: Early infantile autism. The Dorsey Series in Psychology. Homewood, Ill.: The Dorsey Press, Inc.

Focussing on the education of the autistic child as an awakening process, the book discusses the role of meaningful human communication and reports a research program which applied a therapeutic educational technique. The development of language in children, the diagnosis of an autistic child, autistic behavior, and sensory and emotional deprivation, and etiological considerations in sensory deprivation and early infantile autism are discussed. Treatment techniques are described and involve the following considerations: developmental arrest, family role of maintaining a climate of high affective arousal, the clinical setting, the role of the therapist, and the operant conditioning approach. (From ECEA, 1969/70, 1, Abstract No. 1526).

03.
Gilliam, J. (1981). Autism: Diagnosis, instruction, management and research. Springfield, Ill.: Charles C. Thomas.

This collection of broad-based and up-to-date readings on autism is balanced in a way that makes it useful both to professionals and to parents or other lay persons. The initial section, Diagnosis and Assessment, discusses current research, diagnosis, educational screening, and hearing assessment. Instruction, the following section, focuses on a multipurpose communication system, the concept of generalized imitation, teaching simple discrimination, and curricular materials. Management articles encompass the family's role, case management/advocacy, parental participation in the IEP process, and parents' views of the high level autistic child. The final group of chapters, Research, examines autism and childhood schizophrenia, learning, sensory stimulation, and caregivers' questions and concerns. (Author Abstract).

04.
Goldstein, H. (1977). Readings in autism. Guilford, CT.: Special Learning Corporation.

Intended for use in introductory college or university courses, the collection of 25 readings provides an overview of autism. Papers are divided into the following areas, each with a brief introduction: history and theory of the autism concept; prospectus on causes of autism; development of perceptual and cognitive skills; behavioral therapy; and language development. (From ECEA, 1978, 10, Abstract No. 10255).

05.
Kanner, L. (1973). Childhood psychosis: Initial studies and new insights. New York, N.Y.: Halsted Press.

The volume contains 16 papers covering research on early infantile autism (EIA) done between 1943 and 1973 by L. Kanner, a pioneer in the study of child psychosis. The papers cover the following topics: autistic disturbances of affective contact; irrelevant and metaphorical language in EIA; problems of nosology and psychodynamics in EIA; the conception of wholes and parts in EIA; followup studies of autistic children; trends in child psychiatry; EIA and the schizophrenias; historical overview of childhood psychosis; followup study of 11 autistic child originally reported in 1943; the limits of social adaptation of autistic children; and evaluations and followup of 34 psychotic children. (From ECEA, 1974/75, 6, Abstract No. 062847).

06.
Morgan, S.M. (1981). The unreachable child: An introduction to early childhood autism. Tennessee: Memphis State University Press.

This book serves as an introduction to early childhood autism for students, professionals, parents, and the general reader. It provides an interpretative review of research on autism and is divided into three sections. Part I focuses on the autistic child's symptoms and considers how these compare and contrast with other childhood disorders such as mental retardation, childhood schizophrenia, and aphasia. Part II describes the controversy that has centered on the relative importance of psychogenic versus biogenic influences; this section reviews parental characteristics, major theories of causation, supporting evidence for these theories and new insights based on recent research. The conclusion is reached that autism is more consistently associated with biological than psychosocial variables. Part III examines various treatment techniques used with autistic children and summarizes research on the adjustment of autistic individuals when they reach adolescence and adulthood. The final pages reflect on some of the lessons learned and new perspectives gained through study of the short but controversial history of this rare disorder. (Author Abstract).

07.
Paluszny, M.R. (1979). Autism: A practical guide for parents and professionals. Syracuse, N.Y.: Syracuse University Press.

The text presents an interdisciplinary approach to the diagnosis and treatment of children with autism. An initial chaper recounts the history of the syndrome and describes the symptoms from pregnancy through school age. Diagnostic criteria are examined from the perspectives of audiology, social work, speech and language, pediatrics, psychology, and psychiatry. Theories on such etiological bases as psychogenic, biogenic, neurological, and central cognitive defects are discussed. Among therapies analyzed are biochemical strategies, behavior modification, and parent-as-therapist models. Educational responsibility and programing aspects are probed. Parent role and participation are considered. A final chapter focuses on future planning, including suggestions from parents and programing ideas for the autistic adult. (From ECEA, 1979, 11, Abstract No. 114114).

08.
Ritvo, E.R., Freeman, B.J., Ornitz, E.M., & Tanguay, P.E. (Eds.). (1976). Autism: Diagnosis, current research and management. New York: Halsted Press.

Twenty authors contributed chapters covering such aspects of autism as neurophysiology, neurobiochemistry, psychopharmacology, linguistics, behavior therapy, genetics, and education with particular emphasis on current diagnostic tools, their limitations, and their adaptation to autistic patients. (From ECEA, 1976, 8 (3), Abstract No. 082227).

09.
Rutter, M., & Schopler, E. (1978). Autism: A reappraisal of concepts and treatment. New York: Plenum Press.

The book had its origins in the 1976 International Symposium on Autism held in St. Gallen, Switzerland but it is not in any sense a proceedings of that meeting. Most papers have been extensively rewritten to provide a fuller coverage of the topic and also to take account of the issues raised at the meeting. Discussion dialogues have been revised and restructured to stand as self-contained chapters. Many significant contributions to the conference have not been included in order to maintain the balance of a definitive review, however a few extra chapters have been added to fill crucial gaps.
Recommended for clinical and researcher workers from fields of child psychiatry, clinical psychology, social work, and special education. (Author Abstract).

10.
Schopler, E., & Reichler, R.J. (Eds.). (1976). *Psychopathology and child development: Research and treatment*. New York: Plenum Press.

As a whole, this book provides useful reviews of a number of domains related to childhood psychopathology, largely disposes of the belief that autism is of psychogenic origin and thereby relieves parents of blame for the puzzling behavioral pathology, presents a number of conceptions of the underlying neuropathology for autism, analyzes candidly the professional muddle that interferes with the delivery of services for children with behavior disorders, outlines the essential elements and that has already produced evidences of more than mere promise. (From *Journal of Autism & Childhood Schizophrenia*, 1977, *7* (4), 409-417).

11.
Shaberman, R. (1971). *Autistic children; The nature and treatment of childhood autism*. London: Stuart and Watkins.

The work is divided into four main parts: (a) diagnosis: (i)general appearance of physical normality, (ii)abnormal awareness, (iii)gross langauge impairment, (iv)gross behavioural abnormalities; (b) descriptions of four typical autistic children; (c) a study of causational factors; and (d) treatment. Finally, a plea is made for the establishment of a purpose-built centre in which education, therapy, research, teacher-training and the general care of autistic children are coordinated. (Author Abstract).

12.
Tinbergen, E., & Tinbergen N. (1972). *Early childhood autism: an ethological approach*. Hamburg: Paul Parey.

This contribution is an attempt to apply ethological methods to one concrete example of disturbed child-adult interaction. The study has a dual aim. Since one of the disturbing aspects of autism is the underdevelopment or regression of speech, the methods and some of the results of the ethological study of nonverbal communication are critically discussed. Observational and experimental analyses indicate further that the basic cause of the disturbance may well be of a motivational or "emotional" nature. Evidence is presented which suggests that early environmental disruptions of mother-infant interactions may well be at the root of a sizable proportion of cases of early childhood autism. While cautious in separating the problems of causation from those of treatment and therapy, the authors suggest that treatment of the motivational disturbance might well be more effective than for instance speech therapy alone. The paper, written in nontechnical language, is a plea for closer collaboration between psychologists, psychiatrists, educationalists and ethologists. The bibliography is intended to be of assistance to those who want to be informed about relevant ethological methods, and to animal ethologists interested in human behavior. (From CDA, 1973, 47, Abstract No. 324).

13.
Ward, A.J. (1976). *Childhood autism and structural therapy*. Chicago: Nelson-Hall Publishing.

Intended for parents and professionals interested in the care and treatment of autistic children, the volume presents a collection of 16 papers reporting work done by the treatment team of the Autistic Children's Treatment Training, and Research Service (ACTTRS) in Pennsylvania. The papers review the diagnosis and causes of early infantile autism and report on treatment of these children over a period of 8 years, with case histories and followup reports on patients after leaving structural therapy. (from ECEA, 1977, 9 (2), Abstract No. 091328).

14.
Wing, L. (1972). *Autistic children: A guide for parents and professionals*. New York: Bruner/ Mazel.

A guide for those coming into contact with the autistic child, focussing on the parents as central contributors toward the understanding and treatment of these children. Implicit throughout the book are questions about the paucity of coordinated research in epidemiology, genetics, biochemistry, and neurophysiology. Methods of treatment are discussed; psychotherapy seems ineffective and education a matter of choice. Many illustrative cases reinforce convictions of the importance of looking at the world through the eyes of autistic children, sharing their feelings, demonstrating rather than demanding performance, avoiding confrontations, rewarding success, avoiding failure, accepting intent, and allowing for delay in responses. Both pragmatism and sensitivity are apparent in the final chapters on diagnostic assessments, siblings, facilities, and services. The author shows that, indeed, autistic children are capable of learning at many levels and are therefore entitled to a chance for education. (From LLBA, 1973, 7 (1), Abstract No. 7302783).

15.
Wing, L. (Ed.). (1976). Early childhood autism: Clinical, educational, and social aspects. (2nd ed.). Elmsford, N.Y.: Pergamon Press.

The chapters by the nine authors contributing to this book deal with research on diagnosis, classification, epidemiology, abnormalities of language, perception, cognition, and motor skills, methods of education, and organization of services. The authors all regard early childhood autism and related conditions as resulting from a basic disturbance of cognitive development due to organic brain dysfunction. The effects include abnormalities of communication and of social development and a variety of secondary behavioural and emotional problems. In the majority of cases, the children are also mildly or severely intellectually retarded. (Author Abstract).

PARENTS AND FAMILY FACTORS

16.
O'Gorman, G.(1970).The nature of childhood autism.(2nd ed.). London: Butterworth.

Attention is drawn to the higher intelligence and social status of parents of autistic children, suggesting that there is a danger that children of intelligent parents may have abnormally sensitive brains which cannot stand up to adverse circumstances. The book is a valuable contribution in that the case histories give a first hand account to those who are unfamiliar with the subject of infantile autism. (From LLBA, 1971, 5 (2), Abstract No. E01612).

NEUROLOGY

17.
Kugelmass, I. N. (1970). The autistic child. Springfield, Ill.: Charles C. Thomas.

The text examines childhood autism with the stated purpose of integrating the newer knowledge of childhood autism as complete social aphasia with marked CNS disorganization. The physical, mental, and emotional behavior of the autistic child is described. Assessment of the autistic child is discussed in terms of physical, emotional, behavioral, mental and language assessment. The assessment discussion also covers autist diagnosis, autist syndromes, and autist differential diagnosis, stating the criteria of various disturbances. The phenomenology of childhood autism is covered in detail. Neurophysiologic, psychogenic, and biochemical theories as explanations of the mechanism of autism are explored. The discussion of clinical management summarizes home, nursery, school, hospital, and preventive therapy, and the prognostic spectrum. (From ECEA, 1971, 3 (2), Abstract No. 031108).

18.
Rimland, B. (1964). Infantile autism: The syndrome and its implications for a neural theory of behavior.New York, N.Y.: Appleton-Century Crofts.

Part I of this monograph is a comprehensive review of the American-European literature on the rare and unique childhood behavior disorder identified and renamed Early Infantile Autism by Leo Kanner. Chapters are devoted to symptomatology, unusual hereditory background, and differentiation from childhood schizophrenia.
Part II traces the entire syndrome to a single highly specific type of cognitive defect, and attempts to relate this defect to recent findings in the field of brain neurophysiology.
Part III is a speculative integration of the neurophysiological mechanism proposed in Part II with a baffling but highly consistent data relating to Kanner's Syndrome, and with the existing theories of normal and abnormal personality and intelligence. The concluding chapter presents an outline for the general theory of behavior. (Author Abstract).

COMMUNICATION

19.
Bosch, G. (1970). Infantile autism: A clinical and and phenomenological-anthropological investigation taking language as a guide. New York: Springer.

A clinical and phenomenological-anthropological investigation taking language as the guide, the study of infantile autism concentrates upon an analysis of the idiosyncratic language of autistic children and of what is revealed by the way they use it. Complementing the analysis of infantile autism from a phenomenological and existential point of view is a clinical appendix discussing the concept and nature of infantile autism, symtomatology, differences between the Asperger and Kanner syndromes, etiology (genetic, cerebral-organic, and psychogenetic factors and the question of basic disturbance), prognosis and development of the condition, and therapy. (From ECEA, 1971/72, 3, Abstract No. 032044).

20.
Fay, W., & Schuler, A.L. (1980). Emerging language in autistic children. Baltimore: University Park Press.

This is the fifth volume in University Park Press' Language Intervention Series, edited by Richard L. Schiefelbusch. Speech, language, communication and cognitive problems of autistic children are considered in separate chapters. In addition, there is an introductory historical overview of Kanner's Syndrome from the perspective of language and communication symptoms. The final chapters review current intervention strategies and offer guidelines for their improvement through the application of psycholinguistic and cognitive principles.
Fay and Schuler recognize that the language delay and deviance of these children is part of a broader cognitive disorder which involves impaired coding, sequencing, conceptualization and abstraction. But they repeatedly assert that improved communicative performances can be realized if the nature of the cognitive-linguistic problems are understood from a patholinguistic perspective. To this end they have documented their approaches with their own research as well as a broad cross-disciplinary literature. Improved understanding of the problems and personal clinical experiences form the bases of their intervention rationale.
Emerging Language in Autistic Children is recommended as a primary text for undergraduate and graduate courses in language disorders, autism, and developmental disabilities, as well as for supplemental use in course that focus on child development, in general, and on exceptional children, in particular. The materials should also prove useful to professionals in the fields of speech-language pathology, special education and child psychiaty and psychology. Finally, it should provide some elusive answers to parents of autistic children which may help them deal more effectively with their children's communicative efforts. (Author Abstract).

21.
Hermelin, B., & O'Connor, N. (1970). Psychological experiments with autistic children. New York: Pergamon Press.

Dealing with experimental research with autistic children, the book describes psychological experiments with such children designed to explore their abilities and deficits in a number of perceptual and cognitive tasks. Findings from clinical and social psychiatry and the previous few studies carried out by experimental psychologists on autism are summarized. The concluding discussion analyzes the association between autism and retardation, evaluates theories and hypotheses about autism in the light of these experimental findings, delineates the typical autistic child from an experimental point of view, and points to cognitive and perceptual impairments of autistic children rather than any particular withdrawal from people. (From ECEA, 1971/72, 3, Abstract No. 031734).

22.
Webster, C.D., Konstantareas, J.O., & Mack, J.E. (Eds.). (1980). Autism: New directions in research and education. Toronto: Pergamon Press.

The book provides a new perspective on the analysis and treatment of autism, incorporating "subjective" and "objective" approaches and concentrating on the use of sign language as an ideal beginning mode of communication. The authors provide an ethological-information processing theory of autism based on a series of clinical research projects and laboratory, observational, and theoretical studies. (Author Abstract).

SPECIAL ABILITIES

23.
Selfe, L. (1977). Nadia: A case of extraordinary drawing ability in an autistic child. New York, N.Y.: Academic Press.

The book presents narrative and extensive drawings of an artistically talented autistic child. The child's background is briefly reviewed and subsequent chapters compare her ability with established empirical findings, examine such wider theoretical issues as eidetic imagery and drawing ability, and addresses psychological and cognitive issues. Her scores on cognitive measures are reported. The bulk of the book is comprised of more than 100 drawings which she did between the ages of 3 and 6 years. (From ECEA, 1979, 11 (3), Abstract No. 114051).

ASSESSMENT AND EVALUATION

24.
Schopler, E., Reichler, J., & Lansing, M. (1978). Individualized assessment and treatment for autistic and developmentally disabled children. Vol. I. Psychoeducational profile. Baltimore University Park Press.

The Psychoeducational Profile provides the diagnostic tool for designing individualized instruction and home teaching programs. It is a highly effective assessment instrument developed over the past 10 years with autistic and related developmentally disordered children in a statewide program. The test is made up of items that have been found useful with children previously regarded as untestable. Although normative data for the test are included, the primary purpose of the test is not to obtain standard test scores. Instead, the test provides a learning profile reflecting the erratic mental characteristics typical of autistic children and translates this profile into an appropriately individualized and effective special education curriculum or home program. The test assesses six different areas of mental function important for the pre-adolescent child and includes pathology items useful for assessing the degree of the child's psychosis. The test results have been used to develop individualized home teaching programs and the profile is designed for practical application along with the program. (Publisher's Summary).

TREATMENT: PSYCHOTHERAPY

25.
Bettelheim, B. (1967). The empty fortress: Infantile autism and the birth of the self. New York, N.Y.: The Free Press.

The nature, origin, and treatment of infantile autism are explored with a consideration of the child's world of encounter and case histories. The beginning of life, called the region of shadows, is mentioned; and the world of the newborn, body language, mutuality, autonomy, the autistic anlage, and the right side of time are examined for the beginning of the self. Disturbed children are considered as strangers to life and the development of emotional disturbance is discussed in terms of a reason to act, the extinction of feeling, extreme situations, and in spontaneous reaction. In particular, the dynamics of autism, including the dialectics of hope, the decline of the self, and the human craving for order are presented. Case histories are given of three autistic children treated at the Orthogenic School at the University of Chicago: Laurie and Marcia, two mute girls; and Joey, a talking, mechanical boy. In persistence of a myth, reported cases of wolf children are discussed in terms of autism. Finally, the writings of other scientists and the author's own beliefs on the etiology, treatment, and nature of infantile autism are considered. Thirty-three illustrations and a 193-item bibliography are included. (From ECEA, 1969/70, 1, Abstract No. 906).

26.
Jernberg, A.M. (1979). Theraplay: A new treatment using structured play for problem children and their families. San Francisco, Ca.: Jossey-Bass Inc.

Theraplay, a new form of psychotherapy to prevent or treat emotional disturbances in children and adults is examined in the 13 chapters of this book. Theraplay is explained to have its roots in psychoanalysis, developmental psychology, and nursery school practice; to be practical with quick visible results; and to be a component of empathy and acknowledgment of the adults's authority role. (From ECEA, 1980/81, 12 (3), Abstract No. 123692).

27.
Parker, B. (1971). My language is me: Psychotherapy with a disturbed adolescent. New York, N.Y.: Ballantine. ECEA

The story of David, a severely disturbed adolescent (with characteristics of autism) whose language was composed of imagery and symbolism to such an extent as to prohibit valid communication, is recounted by his psychotherapist. The process of therapy (which covered six years) and the slow progress to communication and emotional adjustment are described and illustrated with extensive verbatim interview material. In addition to the study of David, the author discusses conceptual and theoretical issues relevant to the treatment of this kind of patient such as language and symbolic process, transference and countertransference, case management, and suicide threats. (From ECEA, 1971/72, 3, Abstract No. 032519).

28.
Rothenberg, M. (1977). Children with emerald eyes: Histories of extraordinary boys & girls. New York, N.Y.: Dial Press.

Rothenberg, a cofounder of Blueberry Treatment Centers (a multifaceted facility for emotionally disturbed children and adolescents), chronicles some of her more sensational cases in a wordy and somewhat disjointed fashion. Although lacking theoretical sophistication, the book conveys the author's strong sense of understanding of autistic, schizophrenic, and delinquent children. In an approach reminiscent of I Never Promised You a Rose Garden, Rothenberg penetrates each client's bizarre, ritualistic world, displaying limitless, patience and respect for the child's unique terror and succeeds in letting the reader experience the pain of emotional disturbance. Using unconventional methods, the therapist succeeds (for the most part) in reaching children considered hopeless by others. (From The Library Journal Book Review, 1977, New York: R.R. Bowker Company, p. 453).

29.
Tustin, F. (1972). Autism and childhood psychosis. New York, N.Y.: Jason Aronson.

Described are aspects of childhood psychosis from a psychoanalytic point of view stressing the need to build an inner construct of reality in the autistic child whom the author classifies as suffering from either abnormal primary autism, encapsulated secondary autism, or regressive secondary autism. The author's system of classification considers the following three types of pathological autism: abnormal primary autism as an abnormal prolongation of the normal autism of infancy due to gross or partial lack of essential nurturing; encapsulated secondary autism said to develop as a defense against the panic associated with unbearable bodily separateness; and regressive secondary autism marked by a breakdown after what had appeared to normal development. The classification system is said to be useful as a basis for treatment. Differential features of early infantile autism and childhood schizophrenia are discussed and a clinical description of childhood schizophrenia is given. The psychotherapy of an autistic child is considered, giving suggestions for the treatment setting and discerning common phases of the psychotherapeutic process. (From ECEA, 1973/74, 5, Abstract No. 050449).

GROUP THERAPY

30.
Coffey, H.S. (1967). Group treatment of autistic children.
New Jersey: Prentice-Hall.

At the East Bay Activity Center in Berkeley,California, treatment involved the mixing of autistic children with less severely disturbed children. Non-autistic children in the group were expected to act as catalysts by trying to form some type of socially mature relationship with the autistic children while the therapist encouraged interaction. Descriptive accounts of the therapeutic methods used, anacdotal records of the children involved, the results of a followup study, a discussion of the nature of autism, and a brief summary of the philosophy of group therapy are included. (From ECEA, 1969/70, 1, Abstract No. 428).

MUSIC THERAPY AND ABILITIES

31.
Alvine, J. (1978). Music therapy for the autistic child. New
York, N.Y.: Oxford University Press, Inc.

The book reports a study of the influence of music on the autistic child in long term therapy. Chapter 1 describes the receptive and active techniques of music therapy and discusses the stages of therapy. Among techniques considered are physical contact, improvisation, and group music activities. Chapter 2 traces the progress of two autistic children (6 and 8 years old) from the first stage (contact with an instrument) through the second stage (improvisation) to the final stage (development of relationships with others). Chapter 3 relates findings of a research project to help three autistic boys (8 to 11 years old) integrate into the normal primary situation by means of individual assistance given by home tutors and a music therapist. The progress of each of the children is traced. A final chapter examines the parents' role in successful music therapy. (From ECEA, 1980, 12 (2), Abstract No. 121567).

32.
Chastain, L.D. (1979). A handbook on the use of songs to teach autistic and other severely handicapped children. Virginia: White Oake Press.

This book was written to be used by the classroom teacher. Music is used as a medium to facilitate the development of communication, social interaction, direction following, imitation, academic and pre-academic skills. Each song is accompanied by goals and objectives that can be individualized for each child in the classroom. The second edition of this book includes new songs especially for use in special education preschool setting. (Author Abstract).

RESIDENTIAL TREATMENT

33.
Bettelheim, B. (1974). A home for the heart. New York, N.Y.: Alfred A. Knopf.

Described is the therapeutic program of the 25-year-old Orthogenic School which provides residential treatment for severely emotionally disturbed children. It is reported that more than 85% of former patients have been restored to full participation in life. Stressed is the provision by the school of a total milieu therapy. Major sections of the book focus on the physical setting of the school, the development of the total residential therapy, functioning of the staff, and staff training, respectively. Photographs, case studies, and dialogues illustrate the book's major ideas. (From ECEA, 1974/75, 6, Abstract No. 061259).

MISCELLANEOUS TREATMENT

34.
Delacato, C.H. (1974). The ultimate stranger: The autistic child. New York, N.Y.: Doubleday and Company.

The author relates his experiences with autistic children, reviews historical backgrounds, various theories of autism, and explains the evolution of his theory of autism and how the condition should be treated. Explanation of the theory includes discussion of brain injury as the neurological basis of autistic behavior. Brief case stories illustrate how sensory channels function abnormally due to brain injury. Suggestions for observing and evaluating autistic behaviors are provided. Techniques for treatment to eliminate the child's autistic behaviors are provided. Techniques for treatment to eliminate the child's autistic behaviors and change his development so he can be integrated into society behaviorally and educationally are discussed. Neurological organization as a treatment approach is explained. Materials are also included. Suggested readings and a bibliography are provided. (From ECEA, 1974/75, 6, Abstract No. 062606).

TREATMENT: BEHAVIORAL

35.
Lovaas, I.O. (1977). The autistic child: Language development through behavior modification. New York, N.Y.: Halsted Press.

The book explains how to teach language to autistic children and others with severe problems in learning language. It is a practical report on the techniques that Dr. Lovaas has developed over the last twelve years. The book includes an up-to-date review of behavior modification work on language teaching and specific methods for building language. Graphic data on how the children learned language and speech is presented. He presents empirical data supporting his recommendations and relates his work to modern learning theories. Finally, there are experimentally verified facts that can give direction to teaching the autistic child. (Author Abstract).

36.
Lovaas, I.O. (1981). Teaching developmentally disabled children: The me book. Baltimore: University Park Press.

This book is intended for teachers and parents to help developmentally disabled persons live more meaningful lives. It should be helpful for persons retarded in behavioral development, be it as a result of mental retardation, brain damage, autism, severe aphasia, severe emotional disorder, childhood schizophrenia, or any other of a number of disorders. Although most of the programs were developed with children and youth, they can be used for persons of any age. (Author Abstract).

37.
Steucher, U. (1972). Tommy: A treatment study of an autistic child. Arlington, Virginia.: Council for Exceptional Children.

An 8-year-old hospitalized severely autistic boy was given up to 8 hours per day of therapy for 5 months in an attempt to establish a strong child-therapist affection relationship (which would serve as the basis for all other therapy) and to train the child through a behavior modification program. The first month of therapy was devoted to establishing physical contact and affection. Next, a behavior modification program was gradually introduced to teach personal, social, and academic skills. As a result of the one-to-one therapy, Tommy learned to speak about 70 words, became toilet trained, dressed himself, ate using utensils, learned to read and write numbers to 10 and 20 words, improved his social skills, decreased his self isolation need, and lengthened his attention span. Emotional weaning (therapist's gradual withdrawal out of relationship) ended the therapy. (From ECEA, 1973/74, 5, Abstract No. 050388).

38.
Watson, L.S., Jr. (1972). *How to use behavior modification with mentally retarded and autistic children: Programs for administrators, teachers, parents, and nurses*. Columbus, Ohio: Behavior Modification Technology, Inc.

The manual is intended for administrators, teacher, parents, and nurses; and consists of a series of behavior modification programs for use with mentally retarded or autistic children. Consists of chapters dealing with project design, shaping and maintaining behavior, shaping of self-help skills, shaping of language skills, and appropriate social recreation behavior. Detailed as example of vocational and prevocational behavior shaping are training procedures for bedmaking and sweeping skills. Techniques of eliminating undesirable behavior in children are noted such as "time out" and punishment. Briefly noted are uses of training aids, behavior generalization, and trouble-shooting. Appended are a self-help assessment checklist and a training proficiency scale. (From ECEA, 1973/74, 5, Abstract No. 052612).

39.
Watson, L.S., Jr. (1973). *Child behavior modification: A for teachers, nurses, and parents*. Elmsford, N.Y.: Pergamon Press, Inc.

The manual on child behavior modification is intended for nurses, teachers, or parents who are training mentally retarded or autistic children in institutional or community settings. The manual is intended to be used in conjunction with a prerecorded set of lectures and a set of 35 mm slides. Test materials at the end of each chapter include true-false tests, fill-in-the-blanks tests and essay questions. (From ECEA, 1973/74, 5, Abstract No. 052611).

TREATMENT: EDUCATION

40.
Bachrack, A., Mosley, A., Swindle, F., & Wood, M.M. (1978).

Developmental therapy for young children with autistic characteristics. Baltimore, Maryland: University Park Press.

This book was written as a guide for teachers and parents of autistic children who wish to educate their children using a developmental approach. The book offers a detailed guide to fostering the developmentally appropriate curriculum, teacher/parent management techniques, effective classroom scheduling, and evaluation of child progress. Much of the material in the book is integrated in a very practical fashion through conclusion of over 50 lesson plans for activities especially designed to help autistic children master developmental milestones. Also included in the appendix are the Developmental Therapy Ojectives-a sequence of developmental milestones in four areas: Behavior, Communication, Socialization and Academics, which form the curriculum. (Author Abstract).

41.
Burkowsky, M.R. (Ed.). (1970). Parents and teachers guide to the care of autistic children. Syracuse, N.Y.: National Society for Autistic Children.

Geared to parents and teachers, the guide deals with autistic children. Characteristics of the typical autistic child are discussed along with common problems faced by their parents. The confusing problems of diagnosis (labeling) are explored. A report of a summer prekindergarten group training program (for 5 to 8 year old children), outlining the thinking processes employed in setting up, is presented. Emphasis from the program is on changes made by the children, the therapists, and the parents. Two case observations of the autistic child in his daily routine in a regular kindergarten and in a day care center are also presented. (From ECEA, 1973/74, 5, Abstract No. 052612).

42.
Dalrymple, N. (1980). Educating autistic/severly handicapped children: Elementary age. Bloomington, In.: Developmental Training Center.

This book was published in 1980, with a new edition in 1982. It is a comprehensive manual discussing assessment and educational programming for the young autistic child. The original sourcebook is 700 pages in loose-leaf form allowing the user to copy checklist or sections as desired. (Author Abstract).

43.
Dalrymple, N., & Zang Rans, C. (1979). Managing behaviors of seriously emotionally disturbed and autistic children. Bloomington, In.: Developmental Training Center.

This 40 page book gives a practical, applicable approach to modifying behavior in a natural positive manner. This has been found to be useful for parents, teachers, and other service providers. (Author Abstract).

44.
Elgar, S., & Wing, L. (1969). Teaching autistic children. London: National Society for Autistic Children.

The booklet provides information on the problems and teaching of autistic children. The nature of their handicaps and their behavior in infancy and childhood are described, and autism is differentiated from other conditions with which it might be confused. Services for autistic children, both those excluded from education and those accepted in schools, are summarized. Presented in greater detail are the teaching methods used at the Society School for Autistic Children at Ealing in Great Britain. Covered are methods for dealing with behavior problems, methods for teaching formal school work, methods for teaching practical skills and non-academic subjects, emotional responses and social integration, and special problems. Qualifications and qualities necessary for teaching autistic children are indicated. (From ECEA, 1971/72, 3, Abstract No. 032122).

45.
Everard, M.P. (Ed.). (1976). An approach to teaching autistic children. Elmsford, N.Y.: Pergamon Press.

Intended for teachers, parents, and other concerned individuals, the text provides information on methods of teaching and behavior management that have been shown to be of value in helping children with autism and other related handicaps. Offered in the text are a scheme for diagnosing handicaps of autistic children, an outline for standardized assessment, brief descriptions of some tests, and information on simple activities for remediating language problems. (From ECEA, 1977/78, 9, Abstract No. 090617).

46.
Furneaux, B., & Roberts, B. (Eds.). (1977). Autistic children: Teaching, community and research approaches. Boston, Mass.: Routeledge and Kegan Paul.

The text provides an overview of diagnosis and treatment for autism in children. Initial chapters provide a description of the syndrome and its diagnostic criteria, and discuss the resources necessary for effectively dealing with the autistic child in the classroom and at home. Considered in the fifth and sixth chapters are teaching techniques found useful with younger autistic children and adolescents. Implications of research for classroom teachers are discussed in the seventh chapter, while services of the general practitioner, pediatrician, and child psychiatrist are examined in the final. (From ECEA, 1978, 10, Abstract No. 104083).

47.
Henning, J., Dalrymple, N, Davis, K, & Madeira, S. (1982). Social-leisure curriculum for autistic youth. Bloomington, In.: Developmental Training Center.

This is a practical guide for all service providers and parents who want to know how to teach the social skills these students need to keep them functioning in their home communities. A strong rationale for this teaching is stated throughout the guide. (Author Abstract).

48.
Kaplan-Fitzgerald, K. (1977). Reach me, teach me. A public school program for the autistic child: A handbook for and administrators. San Rafael, Ca.: Academic Therapy Publications.

Reach Me, Teach Me is a guide/manual to help teachers, parents and administrators design an elementary school program for the child with autism. It provides developmental lists in all academic areas so that the teacher can assess a child's needs and design a curriculum. It provides lists of activities and materials to teach these assessed areas and sample schedules to implement the curriculum. It discusses parent training, aide training and using volunteers to enhance your program. It provides the teacher and parent with useful techniques and strategies when working with the child with autism. (Author Abstract).

49.
Koegel, R., Egel, A., Rincover, A. (1981). Educating and understanding autistic children. San Diego, Ca.: College Hill Press.

The purpose of this book is to provide a useful guide for teachers and therapists of autistic children. The scope of the book is limited primarily to behavior modification intervention. Material is provided to guide in the assessment of autistic handicaps, to guide the development of special teaching techniques for individual children's learning characteristics; and to guide the teaching of autistic children both within classroom groups and home situations. In addition, primary emphasis is devoted to techniques which have been empirically verified through extensive research. In general, this book presents relatively little opinion, but rather a considerable amount of factual material which as proven itself to be useful. (Author Abstract).

50.
Kozloff, M.A. (1973). Reaching the autistic child: A parent

training program. Champaign, Ill.: Research Press.

This book presents alternative explanations of autism and concludes that, despite the origins of the condition, its remediation requires educational techniques. Moreover, it stresses the importance of parental involvement in the education of their children. One chapter describes patterns of interaction (called structured exchanges) in families, some of which are counterproductive. Another chapter describes methods used to train parents to work with their children, both in a laboratory-school environment and in the home. This chapter also describes basic methods parents were taught to use to strengthen eye contact, cooperation, motor skills, speech and language, and to replace problem behaviors. The majority of the book consists of case studies of four families in the training program, each family and each child having different strengths and needs. Case study chapters describe the work with the family, and the families' work with their autistic children, for each stage of the training program, experimental data are presented throughout, to illustrate the effects of various educational methods. (Author Abstract).

51.
Lieberman, D.A., & Malone, M.B. (1979). *Sexuality and social awareness*. New Haven, Conneticut: Benhaven Press.

Sexuality and social awareness offers a curriculum for the teacher, parent psychiatrists, medical specialist, or therapist who is responsible for directing moderately to severely autistic and neurologically impaired individuals toward developing appropriate expression of their sexuality. In simple and explicit language, this comprehensive program provides the guidelines and structure within which severely handicapped individuals can comfortably accept their social environment. The curriculum teaches the when and where of sexual and social behavior as it needs to be taught to a population that has difficulty understanding and coping with interpersonal relationships. Much, although not all, of the curriculum can also be used with the retarded. The program consists of six separate units, each outline with goals, specific behavioral objectives, and teaching procedures. Included in the book are guidelines for instructors and pre/post -test evaluation forms with which the instructor can assess the student's performance. (Author Abstract).

52.
Oppenheim, R.C. (1977). *Effective teaching methods for autistic children*. Springfield, Ill.: Charles C. Thomas.

An account of the experience of an educator and parent of an autistic child. Research projects utilizing different approaches to the treatment of autistic children are reviewed. Psychogenic and biological theories of etiology are described, as is the behavior pattern, typical of autistic children, including social withdrawal, disorders of speech and language, repetitive activities, bizarre mannerisms, and emotional tantrums. General teaching techniques such as the following are suggested: establishing teacher control through one-to-one interaction; teaching via three simultaneous sensory modalities (kinesthetically, visually, and auditorially); including self-care skills as part of the daily curriculum; and providing for daily sessions with a speech therapist. Included are seven case studies that illustrate some of the problems that autistic children present and the changes in their behavior and functioning after remedial education. (From ECEA, 1974/75, 6, Abstract No. 062369).

53.
Simonson, L.R. (1979). A curriculum model for individuals with severe learning and behavior disorders. Baltimore, Md.: University Park Press.

The book provides a curriculum model for children with severe learning and behavior disorders such as autism. Part I presents an introduction to the curriculum model in four chapters on autism (facts and theories), implementation of the curriculum units is discussed in seven chapters of Part II, and Part II examines preparation and assessment within the curriculum model. The final part consists of five sample curriculum units on table setting, blackboard cleaning, bed making, toothbrushing, and sandwich making. (From ECEA, 1980, 12 (2), Abstract No. 121899).

54.
Van Witen, B. (1977). Teaching children with severe behavior/communication disorders. New York, N.Y.: Teachers College Press.

Part I of this work describes overt symptoms of children diagnosed as autistic or schizophrenic, and compares them with symptoms of children diagnosed as having learning disabilities or mental retardation. Classroom organization, curriculum, and teaching stategies are described. Part II describes techniques and specific activities for the management of behavior problems and for teaching language, reading, writing, mathematics, art and cooking. (Author Abstract).

55.
Weston, P.T.B. (Ed.). (1965). Some approaches to teaching autistic children; A collection of papers. Oxford, England: Pergamon Press Ltd.

Helene Arnstein presents an approach to the severely disturbed child; Margaret Lovatt describes autistic children in a day nursery; and P. Mittler relates work done at Smith Hospital Henley-on-Thames, on the education of psychotic children. Also provided are papers on the following: an education program for psychotic children, by G.D. Clark; a preliminary evaluation of nonlearning children, by A. Singer and R.H. Nichols; aphasic children in a school for the deaf, by a head teacher of a school for deaf preschoolers; a school for autistic children, by Sybil Elgar; and medical aspects of the education of psychotic (autistic) children, by Michael Rutter. (From ECEA, 1969/70, 1, Abstract No. 1355).

PROGNOSIS

56.
Weber, D. (1970). *Early infantile autism from the developmental aspect*. Bern: Hans Huber.

Weber utilizes a developmental approach in the study of infantile autism. Studies are presented on 81 children. Special attention is given to prognosis, the role ascribed to cerebral dysfunction, and the distinctions between Kanner's and Asperger's Syndromes. Contrasting studies of blind and autistic children are also included. (From LLBA, 1972, 6 (1), Abstract No. 7203012).

57.
Beavers,D. (1982). Autism: nightmare without end. Port Washington, N.Y.: Ashley Books, Inc.

A comprehensive account of parenting an autistic child by a mother who is coincidentally a scientist and research chemist. Describing the early symptoms of abnormal childhood behavior in her young son and the inability of her child to communicate. Dr. Beavers conveys the feelings of parents who discover their child is severely handicapped and in need of constant care. She provides insight and understanding to other families who must have a modus operandi to cope. (Publisher's Summary).

58.
Copeland, J. (1973). For the love of Ann. New York, N.Y.: Ballantine.

Recounted is the development of an autistic girl from birth to the age of 21 years with special emphasis on the educational methods used to change her behavior, teach her communication skills, and give her a basic academic education. The child is reported to have been totally unresponsive to her family and completely uncommunicative except for long periods of tearless screaming. it is explained that the intense educational efforts began with the father's successful use of physical punishment to force the child to feed herself at about 7 years of age. Reviewed are the operant methods used to overcome fears (of green, red, dogs, and others). Also described is her progress at an elementary school for the educable mentally handicapped, her expulsion from secondary school, home tutoring, and continual efforts of the parents. Stressed throughout the book is the intense closeness of the family. (From ECEA, 1974/75, 6, Abstract No. 061365).

59.
D'ambrosio, R. (1970). No language but a cry. New York: Doubleday.

Occasionally a therapist will have a patient whose progress is so dramatic he must shout it from the rooftops. such is the case of Laura who, despite having been born to psychotic, alchoholic, and cruel parents, and having crossed eyes, a hunched back, burn scars on her face, and varicose veins, ultimately overcame these obstacles. this book is the story of her long and torturous journey to adulthood, which she accomplished with the help of her doctor and an order of Catholic sisters. When D'Ambrosio selects her from among many others, Laura is not only mute but has the poorest prognosis of any of the children in the institution. The six or more years of treatment is divided into two parts: Language and Life. Since the book is not a professional report of the therapeutic process, which D'Ambrosio reports employed ordinary methods, the dynamics of Laura's development are mentioned, if at all, in language understandable by the layman. Although the nuns did not participate formally in therapy, their positive influence is not overlooked, especially the influence of the two who were closest to Laura. Although the professional worker in any field of mental health will find Laura's story interesting, and maybe inspiring, the general public is the audience for which it was written. (From CDA, 1971, 45, Abstract No. 927).

60.
Greenfield, J. (1972). A child called Noah. New York, N.Y.: Holt, Rinehart and Winston.

Written in diary form, the book is a father's account of the first 5 years in the life of his second son, Noah, an autistic child. During his second year Noah began to talk and, although somewhat slow in development, appeared to be relatively normal. However, by the age of 2 1/2 he had stopped talking, could not perform simple tasks, and would not communicate with his parents. Recounted are the parents' worries and anguish, the effects of Noah's behavior on the family, and the family's efforts to help Noah, which included assistance from an operant conditioning program at UCLA and megavitamin therapy. (From ECEA, 1972/73, 4, Abstract No. 041572).

61.
Hundley, J.M. (1971). The small outsider: The story of an autistic child. New York, N.Y.: St. Martin's Press, Inc.

A mother recounts the first 6 years of her son David's life, an autistic child. Described are his strange and uneven development, his inability to communicate and to understand much of the real world, and his effect on the family. In addition to describing David's isolated world, the author also refers to other cases of autism and to current information and theory concerning this puzzling psychic disorder. (From ECEA, 1972/73, 4, Abstract No. 042276).

62.
Junker, K.S.(1964). The child in the glass ball. New York, N.Y.: Abingdon Press.

Told in a tender and compasssionate style is a Swedish mother's story of her aurally handicapped, autistic daughter and her son who has a motor impairment thought to cause his speech handicap. The author painstakingly describes all the fears and anxieties that she had while trying to identify her children's handicaps, her many attempts to further her education in the field of special education so that she could better help her children, her daily problems in coping with her two handicapped children in addition to her three normal children, her attempt to use a government job to further the educational rights of handicapped children, her thoughts of suicide as an escape from the burdens she carries, and her resolution that she must always move forward and never give up. (From ECEA, 1972/73, 4, Abstract No. 041003).

63.
Kaufman, B.N. (1976). Son rise. New York, N.Y.: Harper and Row, Publishers, Inc.

The father of an autistic child recounts the struggles, disappointments, and successes with young Raun. Described are reactions to the initial diagnosis, dissatisfaction with available schools and programs, and the family's intensive efforts which gradually helped Raun change from a noncommunicative, withdrawn child to an active little boy.(From ECEA, 1976, 8, Abstract No. 081412).

64.
Kaufman, B.N. (1981). A miracle to believe in. Garden City, New York: Doubleday and Company, Inc.

Francisca and Roberto Soto jeopardize their small business, take their life savings, leave their native country of Mexico and journey to New York to be with the Kaufmans, who they know are the last hope for their son-a startingly beautiful, "incurably" autistic, retarted, brain-damaged child.
Responding to their cry, Barry and Suzi put aside the business of their lives, train a staff of sound people who become part of their extended family, learn Spanish and work seven-days-a-week for one-and-a-half years to help the Sotos. Even their once-autistic child, Raun, now a vivacious, happy and intellectually-astute six-year-old, extends a loving hand to this other child and helps lead Robertito Soto across the bridge that Raun himself had previously dared to cross aloud. Robertito, originally mute and vegetable-like ("7" I.Q., called the lowest functioning human being one hospital had seen in twenty years), leaves New York talking five word sentences, doing mathematics, riding a bicycle and loving his parents. (Publisher's Summary).

65.
Lovell, A. (1978). In a summer garment-The experience of an autistic child. London: Martin Secker and Warburg Ltd.

In a Summer Garment is the story of the childhood and adolescence of my autistic son, Simon, who is now 20. It recounts the trauma of the diagnosis, made at 4 years of age and the gradual journey to total acceptance of the handicap. With the help of much patience, perceptive teachers, and the support of the three normal younger children, it was possible to teach Simon to ride a horse, to play a musical instrument, and to read for pleasure. It is also a study of the reactions and interactions within the family, and of the changed attitudes and values imposed by the care of a child so totally vunerable and dependent. And, in personal terms, it tells how Simon brought me great pain-but also deep joy, wonder, and unexpected peace. (Author Abstract).

66.
Park, C.C. (1982). The seige: The first eight years of an autistic child. With an epilogue: Fifteen years after (2nd ed). Boston, Mass.: Atlantic-Little, Brown.

This uniquely minute account of a family's struggle to reach and teach their daughter combines personal warmth and analytic exactitude in describing the slow development of an autistic child. A fiteen-year followup and picture section increase the usefulness of the second edition. (Author Abstract).

67.
Pieper, E.J. (1978). Sticks and stones: The story of a loving child. Syracuse, N.Y.: Honor Policy Press.

Sticks and stones is a story of loving a child, of giving up any steryotypes-if indeed, I ever had them concerning what the perfect child should be-and of getting to know a very different kind of person. As the love and valuing grew so did my ability to look at Jeff's most bizarre behaviors and to see something familiar in them. Many of the rituals began to make sense both in terms of cognitive/developmental level and social reaction when I began to feel what he might be perceiving. I think the value of our story might be that it gives insight into the day to day, homey side of disability with interpretations which seemed valid to me, but which would stop no one from coming to different conclusions. It also emphasizes autistic behavior as a symptom or even syndrome, but not as a disease entity caused by any one agent. In Jeff's case, it is also clear that real progress can be made in social skills and that autism can be, in fact, left behind by some persons. (Author Abstract).

68.
Rowlands, P.(1972). The fugitive mind. London: J.M. Dent and Sons, Ltd.

This is an attempt to recapture on paper the behavioral and social development of my own autistic son, within a few years of the discovery of his condition. While displaying many of Kanner's Points, Frank could then (and now) only be described as "mildly autistic". He has never been without at least some comprehension, some speech, some social interaction and he has avoided the more bizarre behaviors sometimes seen in young autistic children. Frank is 20 years old and enjoys life in the protective surroundings of the Somerset Court Centre for Autistic People in England. He cooperates socially and helps in much of the work done at the Centre, and is well liked. Much of the book is of practical orientation, and should be helpful as a guide to the problems and opportunities encountered in early training and teaching of such a child. (Author Abstract).

69.
White, R. (1978). The special child: A parent's guide to mental disabilities. Boston, Mass.: Little, Brown, and Co.

Written by the father of an epileptic boy now fully grown, the book presents a guide for the parents of brain handicapped (including retarded, epileptic, cerebral palsied, and autistic) children, touching upon the important issues such children and their parents must confront, such as the parents' own complex and often negative feelings toward their special child, and the resentment and confusion suffered by the normal children in the family. The disabled child is followed from infancy and detection of the problem through adulthood. Brain impairment is defined, and its difference from normality is examined. It is explained, for the benefit of parents who have tried to get a precise understanding of what is wrong with their child, that there are as many diagnoses as there are experts to make them; and it is argued that easy labels which deny the child's humanity should be avoided. Other aspects considered include the myth of normality, avoiding developmental disabilities, the basics of infant stimulation, reducing pressures for teacher and pupil, adolescence and improving psychosexual development, therapy, and enhancing independence for the young adult. (From ECEA, 1980, 12 (3), Abstract No. 123637).

PARENT EDUCATION

70.
Havelkova, M.(1966). The autistic child: A guide for parents. Toronto: Canadian Mental Health Association.

Intended for parents and others who participate in the care and treatment of autistic children, the booklet is a brief guide to the understanding and care of such children. It focuses upon children aged 3-5 years. Some of the most common symptoms of the autistic child are described, as are common parent reactions. Guidelines for dealing with the autistic child are offered, including practical suggestions related to parent-child and sibling relationships, physical care, eating, sleeping, aggression and destruction, toilet training, and illness. (From ECEA, 1971/72, 3, Abstract No. 1401).

71.
Lacey, P.R. (1969). Life with the mentally sick child. Elmsford, N.Y.: Pergamon Press.

Intended as a handbook of guidance and instruction for parents, the book deals with the home and hospital care of psychotic (autistic) children, who are defined as those evidencing psychic withdrawal from reality. Definitions of such a child are presented and symptomatic behavior indicated. Suggestions are made for dealing with symptomatic problems which occur when caring for psychotic children. Discussed are general principles of care of emotionally disturbed children, routine physical care (dressing and undressing, feeding, toilet training, sleeping), and speech, hearing, and communication problems peculiar to psychotic children. Differences between normal and emotionally disturbed children, and between severely emotionally disturbed and psychotic children are explained. Stimulation, occupation, and recreation are also discussed. (From ECEA, 1971/72, 3, Abstract No. 030045).

72.
Wing, L. (1970). Children apart: autistic children and their families. Albany, N.Y.: National Society For Autistic Children.

A brief description of the nature of autism and autistic-like conditions, the behaviour problems found in the affected children, and the general principles of management and basic teaching in the child's own home. The causes of autism are discussed, with emphasis on brain dysfunction rather than emotional disturbance. This booklet, written without jargon, is an introduction to further reading and is also useful for parents to give to relatives and friends to help them understand the autistic child's behaviour. (Author Abstract).

73.
Wing, L. (1971). Autistic children: A guide for parents. London: Constable.

A handbook for parents, and also for professionals who work closely with autistic and autistic-like children. It describes the theories of causation, the social and intellectual impairment underlying autism, and the overt behaviour pattern, with its many variations. The common behaviour problems and suggestions for the management of each are discussed. Methods of teaching self care, practical and social skills are outlined. The problems of the parents and siblings, and the services needed to help the children and their families are mentioned. The approach throughout is practical rather than theoretical. The severity and chronicity of their handicaps and the frequency of associated mental retardation are emphasized, but so is the possibility of some improvement with the right kind of help. (Author Abstract).

74.
Dalrymple, N. (1979). Learning together. Bloomington, In.: Developmental Training Center.

A book designed to be read to or with preschool or primary grade children to acquaint them with the special needs of an autistic child. This stimulated good discussions and much interest with children. This book serves as excellent preparatory reading for youngsters about to have an autistic child mainstreamed into their classroom. (Author Abstract).

75.
Gold, P. (1974). Please don't say hello. New York, N.Y.: Human Science Press/Behavioral Publications Inc.

Eddie, the autistic boy in this story has some unusual abilities while he also functions subnormally in other areas. This story depicts an autistic child who functions on a somewhat higher level than the majority who are afflicted. It also concerns itself with how those who know Eddie-family, friends and acquaintances-deal with his condition. (Author Abstract).

76.
Autistic Children's Association of South Australia (1967). Autism-Cure Tomorrow-Cure Today.

This book is a collection of the papers presented during a three-day conference on the autistic child, organized by the Autistic Children's Association of South Australia, and held in the Adelaide Teachers College from 16 August to 18 August, 1967. The conference, which was titled "Autism-Cure Tomorrow-Cure Today", was attended by approximately 200 delegates from all States of Australia, from New Zealand, and from Great Britain. (Publisher's Summary).

77.
Churchill, D.W., Alpern, G.D., and DeMyer, M.K. (Eds.). (1971). Infantile autism: Proceedings of the Indiana University Colloquim. Springfield, Illinois: Charles C. Thomas.

Presented are the proceedings of the Indiana University Colloquim on Infantile Autism covering widely diversified, clinical and laboratory investigations. The papers in Part 1 are devoted to the description and classification of infantile autism, and present three empirical approaches to the problem of classification. Part 2, dealing with developmental and therapeutic aspects, covers the development of a behavioral treatment program for psychotic children, a psychoanalytic view of infantile autism and its treatment, the differential effects of behavior modification in four mute autistic boys, and a discussion of treatment approaches. Part 3 focuses upon biological aspects and includes reports of psychobiological and neurophysiological research into infantile autism. Included are the responses of formal discussants and of other participants to each group of papers. (From ECEA, 1971/72, 3, Abstract No. 032480).

78.
Coleman, M. (Ed.). (1976). The autistic syndromes. New York: North-Holland Publishing Company.

Presented are biochemical and psychological studies performed on 78 autistic children during the 1974 annual meeting of the Children's Brain Research Clinic of Washington, DC. Among conclusions presented in the final summary chapters are that there was an increased incidence in serum antibodies to herpes simplex virus among participants of the studies and their mothers; that relationships between the levels of receptive language, expressive language ability to classify objects and, visual motor functions in autistic children seemed to be lawful and predictable; and that three subgroups of the classical autistic syndrome can be identified (familial, purine, and celiac autism). (From ECEA, 1978, 10, Abstract No. 100486).

79.
Council for Exceptional Children. (1962, April). Selected convention papers. Proceedings of the 40th Annual C.E.C. Convention. Columbus, Ohio.

Sixty-four selected convention papers are presented from the 40th annual Council for Exceptional Children Convention in 1962. The papers range in length from two to seven pages. Selected topics include appraisal in the counseling of deaf clients, trends in curriculum development for the mentally retarded, emotional disturbance in deaf children, programmed learning of elementary reading, the role of lay groups in teach recruitment, American Foudation for Overseas Blind, realistic goals for the mentally and physically handicapped, prediction and measurement of speech improvement in the mentally retarded, vocational counselling and placement of the deaf, some observations on desirable qualifications for teachers of the mentally superior, World Confederation of Organizations of the Teaching Profession, programs and procedures in home teaching, a review of perceptual processes of the mentally retarded, measurement and stimulation of originality in thinking, and theoretical and philosophical aspects of laboratory experiences in special education. (From ECEA, 1972/73, 4, Abstract No. 042656).

80.
Council for Exceptional Children. (1969). Counselling and psychotherapy with the handicapped. Exceptional child bibliography series. Arlington, Virginia: Information Center on Exceptional Children.

A bibliography of 41 abstracts concerns itself with psychotherapy and counselling of the mentally, aurally, and visually handicapped, and also provides information on the emotionally disturbed and the physically handicapped. Included are a subject and author index, information on using the bibliography, and information on ordering the entire collection or individual documents. (From ECEA, 1970/71, 2, Abstract No. 2022).

81.
Council for Exceptional Children. (1971). Autism: Exceptional child bibliography series. Arlington, Virginia: Information Center on Exceptional Children.

One in a series of over 50 similar selected listings, the bibliography contains 47 items of research reports, conference papers, journal articles, texts, and program guides selected from Exceptional Child Education Abstracts. Each entry on autism provides bibliographical data, availability information, indexing and retrieval descriptors, and abstracts of the documents. (From ECEA, 1971/72, *3*, Abstract No. 032362).

82.
Council for Exceptional Children (1971). *Emotionally disturbed: Exceptional Child Bibliography Series*.

One in a series of over 50 similar selected listings relating to the education of gifted or handicapped children, the biliography contains 66 references selected from Exceptional Child Education Abstracts on research studies of emotionally disturbed children. References include research reports on behavior problems and modification, identification and diagnosis, program evaluation, schizophrenia, and other aspects of emotional disorders. Bibliographic data, availability information, indexing and retrieval descriptors, and abstracts are included for each entry, and author and subject indexes are provided. (From ECEA, 1971/72, *3*, Abstract No. 032436).

83.
Council for Exceptional Children (1976). *Autism: A selective bibliography*. Reston, Va.: Information Services and Publications.

The annotated bibliography on autism contains appoximately 125 abstracts and associated indexing information for documents or journal articles published from 1966 to 1975 and selected from the computer files of The Council for Exceptional Children's Information Services and the Education Resources Information Center (ERIC). It is explained that titles were chosen in response to user requests and analysis of current trends in the field. (From ECEA, 1977/78, *9*, Abstract No. 091207).

84.
Higgins, M. (1979). *The Illinois autism study*. Springfield: Illinois State Office of Education.

This document describes a study on autism in Illinois designed to review relevant legislation, conduct on site visits to a number of programs, collect information about prevelance rates, describe the existing system, identify service deficits and gaps, develop a model comprehensive continuum of services from conception through adulthood, and formulate a statment of actions necessary to implement the model. (From ECEA, 1980, *12* (3), Abstract No. 122983).

85.
Hill, J.P. (Ed.). (1967). *Minnesota Symposia on Child Psychology*. Volume 1. Minnesota: The University of Minnesota Press.

Ten schizophrenic and autistic children who exhibited self-destructive, tantrum, echolalic, and self stimulatory behaviors were treated by reinforcement therapy. Reinforcement withdrawal, in the form of interpersonal isolation contingent upon self-destruction, and electrical shocks served to extinguish these behaviors in some children. Reinforcement withdrawal contingent upon echolalic behavior, and reinforcement delivery, contingent upon appropriate speech, were found to decrease echolalic speech. Observations led to the conclusion that as an appropriate behavior was strengthened by reinforcement, self-stimulatory behavior decreased in strength. Children learned to seek contact with adults through shock avoidance training. Establishment of speech in previously mute children was accomplished through verbal imitation training; imitation was also used to facilitate the acquisition of complex social and preschool behaviors. (From ECEA, 1970/71, 2, Abstract No. 930).

86.
Marcott-Radke, A., and Bono, D. (1980, April). Modified Autistic Total Communication (M.A.T.C.). A manual for teaching modified communication to the autistic and severely impaired. Paper presented at the Annual International Convention of The Council for Exceptional Children.

The need for a hierarchal framework of communication skills particularly relevant to the area of total communication has become apparent to many professionals servicing an autistic population. A rationale, guidelines for the use of modified total communication and activities have emerged and have been refined with our increased experience. These components have been organized into a manual entitled "Modified Autistic Total Communication: A Manual for Teaching Modified Total Communication to the Autistic and Severely Impaired". The purpose of the manual is to present the fundamental principles of modified total communication to enable speech and language pathologists and classroom teachers to program for the individual needs of non-verbal and autistic or severely impaired students. (Author Abstract).

87.
Mittler, P.J. (1968). Aspects of autism: Some approaches to childhood psychoses. Proceedings of the British Psychological Society's Division of Clinical Psychology and Division of Educational and Child Psychology, October, 1967. London: British Psychological Society.

The present book is a collection of the proceedings of an October 1967 conference held jointly by the British Psychological Society's Division of Clinical Psychology and its Division of Education and Child Psychology. It includes contributions from eminent authorities on childhood psychoses from the disciplines of psychiatry, psychotherapy, developmental psychology, clinical psychology, and education. Notable contributions are Rutter's on the possible etiological bases of autism; Hermeline's, on language defecit; Mittler's, on the difficulties of formal psychological testing in the psychotic child; there is also an appendix which discusses how childhood autism may be influenced by sensory defects. The book is an excellent reappraisal of the difficulties found in the diagnosis and treatment of childhood psychoses, and offers useful suggestions for further research. (From LLBA, 1970, 4 (2), Abstract No. D02551).

88.
National Society for Autistic Children.(1970). Facilities available for autistic children. London, England.

The directory provides a description of autism in terms of behavioral characteristics and available treatment facilities. Prevalence figures of autistic children throughout Great Britain are listed, and data is given on the extent of erroneous placement into subnormality hospitals. Each country in Britain is listed alphabetically followed by its estimated autistic population and available educational facilities. The majority of counties are totally without such services, and a map graphically indicates the shortage. The thirty-two facilities (schools or clases) in existence are briefly described in terms of age range, number of students and staff, and address. (From ECEA, 1971/72, 3, Abstract No. 032454).

89.
Prick, J.J.G. (1971). Modern approaches to the diagnosis and instruction of multi-handicapped children. Volume 1, Infantile autistic behavior and experience: A new clinical picture. Proceedings of the International Conference on the Education of Deaf-Blind Children, August, 1971. Holland: Rotterdam University Press.

Part of the proceedings of the International Conference on the Education of Deaf-Blind Children held at Sint Michielsgestel, the Netherlands from August 25-29, 1968, the monograph presents a clinical and phenomenological approach to infantile autism, which is seen as an existential-developmental disorder. Characteristics of autistic and autisiform behavior in children are analyzed and features of their sensory physiological organization are delineated. Postulated is a hypothesis regarding the nature of the cerebral functional organization on which infantile autistic behavior and experience is based. The second portion of the monograph centers around discussion of a particular case which is presented as constituting a new clinical picture, comprised of infantile autistic behavior combined with cerebral and endocrinal disorders and other bodily manifestations of a degenerative nature. The discussion of the case includes an analysis of the subject's autistic behavior and comments on the genesis of early infantile autism. (From ECEA, 1971/72, 3, Abstract No. 032144).

90.
Rutter, M. (Ed.). (1971). Infantile autism: Concepts, characteristics, and treatment. Proceedings of the Institute for Research into Mental Retardation, June, 1970. Baltimore, Maryland: Williams and Wilkins Company.

Proceedings of a study group on concepts, characteristics, and treatment of infantile autism in which investigators discussed ongoing research were presented. The introduction provided a brief history of clinical recognition of infantile autism. Excerpts from discussions that followed the presentation of papers in each major area were included. (From ECEA, 1972/73, 4, Abstract No. 042657).

91.
Shaperman, R. (1968). Collection of papers deriving from the course of lectures on the education of autistic children held at the Society School for Autistic Children in Autumn, 1967. London: National Society for Autistic Children.

This collection comprises 10 papers on various aspects of childhood autism, with special reference to education. The course included the showing of a 2-reel 8mm film of autistic children, made at the Society School by R. Shaberman in 1967. (Author Abstract).

92.
Brauner, A. (1976). Les Enfant Des Confins. Paris: Bernard Grasset.

Autistic children, no matter what family they are born into, are "Marginal Children". What can we do for them? Is it possible to cure them? How can we accept them, see them welcomed into all situations by society at large? Whether we want to be or not, we are all responsible. These children are not strangers.
Alfred Brauner, Director of a special remediation centre-one of the first in Paris-has in this book responded to these questions, and illustrates his answers with a series of case studies and descriptions of day-to-day occurences. Thus, we follow the slow progress of some children in the Centre who, although without language of life (spirit?) react by blooming in the warm surroundings and under precise therapeutic techniques. We see how expression through painting, sculpting and above all, music play a major role in this long and patient treatment. (Publisher's Summary).

93.
Brauner, A., & Brauner, F. (1978). Vivre avec un enfant autistique. Press. Universitaires De France.

The authors of "Living with an Autistic Child" who have published many scientific articles in the medical-educational domain and in the sociology of childhood, provide here the benefit of their long clinical experience. They discuss concrete problems which follow from the disorder and its symptoms, and provide those family members and specialists who care for the child with an analysis of useful therapeutic treatments.
Much of the contents of this book illustrate the methods used week after week by the staff of the educational treatment centre which the authors direct near Paris. Among these straightforward writings, one discovers unpublished observations of scientific importance. These chapters help families, physicians, practising psychologists and educators face the constantly trying situations they encounter. They open a difficult field to the general public. (Publisher's Summary).

94.
Herbaudiere, D. (1972). Cati Ou L'enfance muette. Press Universitarres De France.

After having two "normal" children, the author finds that her third born cannot help herself in the most basic bodily functions. The book reveals the author's struggle with different diagnoses and treatment approaches, and is intended for all parents who are faced with "abnormal" children. (Publisher's Summary).

95.
Wurst, E. (1981). Autismus (2nd Ed.). Bern: Hans Huber.

The intellectual performance, the developmental level of visual perception as well as the feasibility to describe the structure of personality were investigated in 30 6-8 year old autistic children (14 Kanner autists, 16 Asperger autistic psychopaths). Summarizing all the results, the author draws the conclusion that the autistic disturbance of behavior is not primarily caused by developmental retardation of visual perception, but rather caused by a profound handicap in social and emotional comprehension and experience. (Author Abstract).

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Published by the
Ontario Society for Autistic Children
Wellington County Chapter

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ISBN 0-88955-035-2